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XA1200 Applicator

Operator Instructions and Parts Manual

Model _____ Serial No. _____

FOR OFFICE USE ONLY		
DATE	**UPDATE DESCRIPTION**	**CODE**
11/01/22	Initial release	OO1101

ACTIVATE YOUR EQUIPMENT WARRANTY

☞ It is the responsibility of the Dealer to register your Equipment shortly after the equipment start-up and operation overview. You must register your machine at time of purchase at www.apexseeder.com/warranty/ for warranty coverage.

Be sure to confirm with your sales representative that this has been done completely.

This registration process activates the Limited Warranty.

What should you do if you need repairs or parts under Warranty?

How to get parts and or repairs done under warranty:

Notify **YOUR DEALER** immediately when you discover a faulty material, workmanship, or faulty component. **Do not** wait weeks or months to get it reported. Be sure to tell the dealer that this is a failure that occurred under warranty.

NOTE: Warranty work must be done by an Authorized Dealer in order to be covered by the Warranty Program, unless otherwise approved by the Warranty Administrator.

Instructions to Dealer on processing warranty work:

Initiating a claim

1. Be sure to have the model, serial number and number of hours on unit.
2. A description of the problem as understood at the time.
3. Call the Warranty Administrator to secure warranty claim authorization number.
4. Confirm with Warranty Administrator that the unit is eligible for warranty coverage.
5. Any parts needed for the repair work should be placed with the Warranty Administrator instead of the parts department. These will be shipped to you at no charge pending the outcome of the investigation.
6. Labor hours must coincide with the published “Labor Schedule” or estimate approved by the Finn Warranty Administrator.
7. Once work is done, a Warranty Claim Form must be filled out and emailed along with any related receipts or invoices to the Warranty Administrator. We ask that this is done ASAP after work is completed.

Faulty or failed parts:

IF the Warranty Administrator wants you to return failed parts, you will receive a return shipping label in the package with new parts. On that Label will be marked a return authorization number. (Which is the same number as you claim number.)

Please also mark the outside of the package that you are shipping back (using a marker) with the claim/return number. **THESE PARTS MUST BE RETURNED WITHIN 10 DAYS!** Failure to do so can void warranty coverage.

NOTE: Further information and related forms can be found on the web site in the Dealer Portal warranty section.

LIMITED WARRANTY
EFFECTIVE 01/01/2021

WARRANTY PERIOD

Base Warranty: 12 months or 1000 hours.
Extended warranty: 24 months or 2000 hours.
Doosan: 3 year or 3000 hour
Cummins: 2 year or 2000 hours
Stainless Tank: 15-year corrosion. For purposes of this warranty, corrosion is defined as naturally occurring through-wall penetration of the stainless steel.

CONDITIONS FOR WARRANTY APPLICATION

- Provide a copy of the Warranty Registration received at the time of purchase.

  NOTE: In instances where there are discrepancies relating to the date of purchase, the Warrantor reserves the right to deny and/or charge back any warranty costs incurred outside the original warranty period.
- Provide proof (upon demand) that operational and maintenance guidelines specified in the technical publications were and are being respected.
- Vehicle servicing must be performed by an authorized Service Department or a service provider assigned by an authorized Warrantor agent.
- Return defective component with warranty tag to the Warranty Department within 30 days of the repair date.
- This limited warranty covers only new items manufactured. It does NOT extend to any used or rebuilt item, unless the sales order or contract for such item expressly provides for warranty coverage.

OEM WARRANTY

Parts which are manufactured by vendors or suppliers, but sold as part of the machine or as a repair/replacement part of the machine, are warranted to the limits of that manufacturer's product warranty.

BASE WARRANTY

Warrantor will repair and/or replace, at its discretion, all failures resulting from defects in material, design or workmanship for the first 12 months or 1000 hours from the in-service date of the product.

EXTENDED WARRANTY

Warrantor will repair and/or replace, at its discretion, failures resulting from defects in material, design or workmanship related to the powertrain components, frame and hydraulic components excluding hoses, seals and O-rings.

EXCLUSIONS – ARE NOT WARRANTED

- Engine, battery (Warranted to the limits of that manufacturer's product warranty.)
- Normal wear on all components (such as tires, engine belt, etc.)
- Replacement parts and/or accessories that are not genuine Warrantor parts and/or accessories.
- Damage resulting from installation of parts other than genuine Warrantor parts.
- Damage caused by failure to provide proper maintenance as detailed in Warrantor-provided technical publications.
- The costs of regular maintenance services including, but not limited to tune-ups, adjustments, parts, and lubricants. All optional accessories (as well as damages caused by optional accessories) installed on the machinery by any facility/shop other than Warrantor-approved.
- Damage resulting from but not limited to accidents, water intrusion, fire, misuse, abuse or neglect.
- Damage resulting from but not limited to operation of the machine in conditions incompatible with machine design as defined in the vehicle Operator's or Operator's/Service Guide.
- Damage resulting from modification to the vehicle not approved in writing by Warrantor.
- Damage or breakdown resulting from improper or inadequate storage by owner.
- Indirect or consequential losses incurred by the owner of the machine including but not limited to: travel time and mileage required for servicing product, transportation, towing or test drive, telephone/cellular calls and all electronic communications, taxis, rental or substitute vehicle, cost of service calls or any other incidental or consequential damages.
- Vehicle delivery inspections.

WARRANTY TRANSFER

The warranty described here and above is transferable to subsequent owner(s) for remainder of warranty period from original in-service date.

LIMITATIONS OF LIABILITY

THIS WARRANTY IS EXPRESSLY GIVEN AND ACCEPTED IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATIONS ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT THAT THEY CANNOT BE DISCLAIMED.

THE IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE LIFE OF THE EXPRESS WARRANTY, INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM COVERAGE UNDER THIS WARRANTY.

No other person has been authorized to make any affirmation, representation or warranty other than those contained in this warranty, and if made, such affirmation, representation or warranty shall not be enforceable against Warrantor. Warrantor reserves its right to modify this warranty policy at any time, being understood that such modification will not alter the warranty conditions applicable to vehicles sold while this warranty is in effect.

LIMITATIONS ON OUR RESPONSIBILITY WITH RESPECT TO PRODUCTS PURCHASED

1. Normal wear parts, Allied Equipment, trade accessories not manufactured by Warrantor, such as but not limited to items such as various filters, fluids, brakes, clutch linings, coupler insert, belts, hoses, light bulbs, mechanical seal, over center clutches, tires, ignitions, starters, batteries, carburetors, engines or like or unlike equipment or accessories. (Such being subject to the warranty, if any, by their respective manufacture).
2. Secondhand, used, altered, or rebuilt machines or parts.
3. Defects, malfunctions or failures resulting from accidents, abuse, misuse, improper servicing, or neglect of required operational guidelines and maintenance service, as outlined in the Warrantor's Operators Manual(s).
4. Any defect or failure of products warranted arises out of or is caused by accessories or parts not manufactured or supplied by Finn Corporation, whether same are supplied by purchaser, dealers, or any other party.

THE REMEDIES OF THE USER SET FORTH HEREIN ARE EXCLUSIVE, WITHOUT REGARD TO WHETHER ANY DEFECT WAS DISCOVERABLE OR LATENT AT THE TIME OF DELIVERY OF THE PRODUCT TO THE PURCHASER.

ALL WARRANTY REPAIR MUST BE DONE BY A WARRANTOR-AUTHORIZED SERVICE PROVIDER OR AUTHORIZED REPAIR SHOP OF WARRANTOR'S CHOICE.

TRANSPORTATION, HAULING, STORAGE, OR OTHER SIMILAR COSTS ARE NOT PART OF WARRANTOR'S OBLIGATION UNDER THE LIMITED WARRANTIES AND IS THE RESPONSIBILITY OF THE EQUIPMENT OWNER.

THE ESSENTIAL PURPOSE of this exclusive remedy shall be to provide the original purchaser with repair or replacement of parts that prove to be defective within the period and under the conditions previously set forth. This exclusive remedy shall not have failed of its essential purpose (as that term is used in the Uniform Commercial Code) provided Finn remains willing to repair or replace defective parts within a commercially reasonable time after it obtains actual knowledge of the existence of a particular defect.

IN NO EVENT shall the Warrantor be liable for any special, consequential, incidental or indirect damages, including lost profits or lost commercial opportunities, with respect to the sale of the above warranted product or anything done in connection therewith, or for property damage sustained by a person claiming to be a third party beneficiary of a surviving warranty under the law of any jurisdiction.

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Continued...

INDEX (Continued)

SAFETY FIRST

With any piece of equipment, new or used, the most important part of its operation is **SAFETY!**

Apex encourages you and your employees to familiarize yourselves with your new equipment and stresses safe operation.

The first pages of this manual are a summary of the main safety aspects associated with this unit. Be sure to read and understand completely before operating the machine.

The symbols below are used throughout the operation and maintenance sections of this manual to call attention to safety procedures.

⚠ DANGER ***Danger indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.***

⚠ WARNING ***Warning indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.***

⚠ CAUTION ***Caution indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.***

NOTICE ***Notice indicates important information, that if not followed, MAY cause damage to equipment.***

NOTE: This is helpful information.

The **DANGER**, **WARNING**, **CAUTION** and **NOTICE** notifications and instructions in this manual *cannot* cover all possible conditions and situations that may occur.

It must be understood by the operator that caution is a factor which *cannot* be built into this product; caution must be supplied by the operator.

CALIFORNIA PROPOSITION 65

⚠ WARNING ***The engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm. Wear protective equipment. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle.***

⚠ WARNING ***Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.***

- ***Always start and operate the engine in a well-ventilated area.***
- ***If in an enclosed area, vent the exhaust to the outside.***
- ***Do not modify or tamper with the exhaust system.***
- ***Do not idle the engine except as necessary.***

⚠ WARNING ***Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.***

⚠ WARNING ***This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. Go to www.P65Warnings.ca.gov for more information.***

SAFETY SUMMARY SECTION

It is important that all operators of this machine are familiar with all safety aspects covered in this section and have read the entire Operator's Manual before operating the machine. Always keep a copy of this manual with the machine. It is the responsibility of the operator of the machine to fully understand this safety summary section. Remember that YOU are the key to safety. Good safety practices protect not only you but also the people working with and around you. Keep in mind that this safety section is written for this type of machine only. Practice all other usual and customary safe working precautions. Above all, remember that safety is up to you.

The Apex XA Series Applicator is designed to mix and apply water, seed, fertilizer, agricultural lime, and hydraulic mulch to the prepared seedbed. The resultant slurry from mixing one or more of the above materials may react, causing harmful or deadly gasses within the tank. Heat, evaporation, or extended emptying period can/will accelerate the formation of these gasses. Please contact your supplier(s) of these slurry components regarding their potential reactivity.

I. PRIOR TO OPERATION

1. Read this manual in its entirety and follow ALL safety procedures
2. Check all lubrication points and fluid levels. See lubrication section for specific lubrication points and fluid specifications.
3. Inspect all fasteners for tightness with the power turned off.

Obey all of the safety labels on the applicator. They are provided for your protection. If any labels are removed, damaged or made unreadable in any way, contact Apex for a replacement.

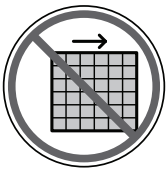
If the applicator is equipped with any options, read and understand ALL of the safety precautions and warnings for that particular option BEFORE performing maintenance or operating.

II. GENERAL PRECAUTIONS

1. Empty the tank daily to prevent stored material from producing hazardous gases. Some gases produced by stored material can be harmful or deadly.

2. Never enter the tank of the applicator before performing the proper lockout/tagout procedure. Use lockout/tagout procedure 29 CFR 1910.147 during inspection or maintenance.
3. Tag the engine operating area to show that the applicator is being serviced. Use lockout/tagout procedure 29 CFR 1910.147 during inspection or maintenance.

4. Stop all action, read and observe the operation and safety manual in its entirety, following all safety precautions before operating or performing maintenance.



5. Do not operate the applicator without all guards in place. Always use safe operating practices.

6. Hydraulic fluid is under high pressure. Always use safe operating procedure.

SAFETY SUMMARY SECTION (CONTINUED)

II. GENERAL PRECAUTIONS (Continued)

7. Keep a sufficient distance away from all electrical power lines. Do not aim the discharge spray toward power lines, transformers or other high voltage electrical conductors. Also, do not aim the discharge spray towards people, animals or anything other than the intended application area.

8. Operators of the applicator should never ride on the machine at speeds greater than 5 mph (8 kmh).

9. Use proper means (steps, ladder) for mounting and dismounting of the applicator. Never mount or dismount a moving machine.

10. Always wear safety goggles when operating the applicator. Other safety attire such as safety shoes, ear protection, gloves, hard hats, dust masks, etc, should be worn as required by warning decals on the machine, in the operator's manual or specific job site requirements. Avoid loose fitting clothing that may get caught in rotating machinery. Remove watches, rings, etc.

11. Do not load the applicator while in transit. Load only when parked and unit is as level as possible. Take care not to drop foreign objects into the tank, such as pens, lighters, etc, as the objects could plug the slurry system. Should any object be dropped into the tank, DO NOT reach into the tank to retrieve the object. See the Maintenance section before allowing any personnel to enter the tank.

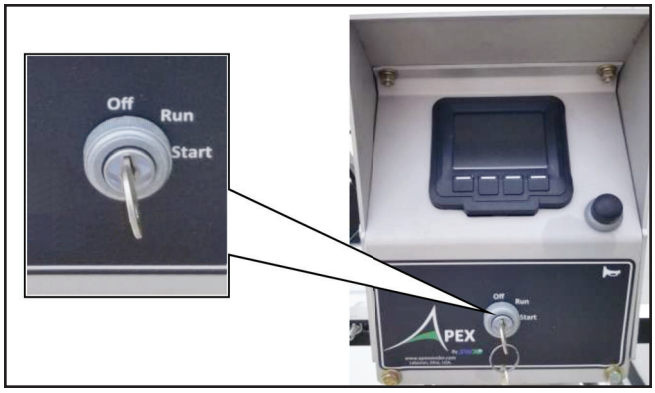
12. The driver of the carrying or towing vehicle is responsible for the safety of the operator(s) of the applicator. Make sure the driver is aware and avoids all possible hazards to the operator(s), such as low tree limbs, low power lines, etc. Vehicles on which the applicator is mounted must be stopped and started gradually. Avoid abrupt starts and stops. Never operate on a slope or a hill that may endanger the driver and/or the operator(s). All personnel should review and be familiar with stop and start signals between the driver and the operator(s) before going into operation. Only the operator should be located on the platform during operation.
13. Never operate this or any other machine when fatigued, tired, under the influence of alcohol, illegal drugs or medication. All personnel must be in good physical and mental condition to operate this applicator.
14. Make sure the area to be sprayed is clear of all persons and animals.

SAFETY SUMMARY SECTION (CONTINUED)

IV. WELDING PRECAUTIONS

Never perform welding on the XA1200 Applicator without disconnecting the following:

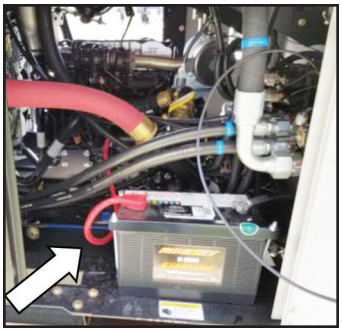
1. Move the engine ignition switch to the OFF position.



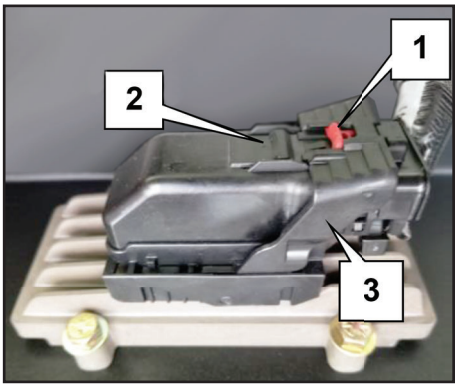
2. Disconnect the Apex display by disconnecting the connector on the bottom of the Operator Control Box.

3. Disconnect the batteries, located on the right side of the unit, behind the engine door.

   Remove the positive battery cable from the battery.

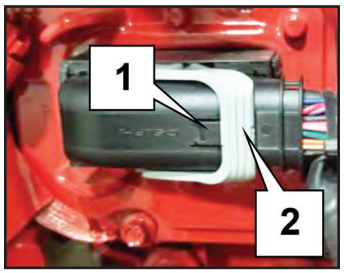


4. Disconnect the engine Apex microcontroller. Locate the microcontroller plug, above the battery.



   1. Slide the red button (1) to the left.
   2. Depress the button (2) to allow the clasp to raise.
   3. Raise the clasp (3) to remove the controller connector.

5. Disconnect both connectors on the engine ECU.
   1. Depress the button (1) to allow the clasp to raise.
   2. Raise the clasp to remove the controller connector (2).



V. BATTERY SAFETY

1. When working with batteries ALWAYS wear safety goggles.
2. Before working with batteries turn the key switch to the OFF position.

⚠ WARNING ***Battery electrolyte contains sulphuric acid and can quickly burn the skin and eat holes in clothing. If you spill acid on yourself immediately flush the area with water.***

⚠ WARNING ***If you accidentally ingest battery acid, drink a large quantity of water or milk. Call a doctor or hospital immediately.***

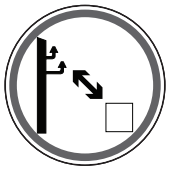
3. Avoid short circuiting the battery terminals through accidental contact with metallic objects, like tools, across the terminals.

⚠ WARNING ***Batteries generate hydrogen gas. Hydrogen gas is very explosive and is easily ignited with a small spark or flame.***

SAFETY SUMMARY SECTION (CONTINUED)

VI. OPERATION SAFETY

1. The noise level of the applicator at the operator station, unshielded, is above 80 dBA. Take the following precautions:
   - Always keep doors and windows of the tow vehicle closed
   - Use ANSI S3 19-1975 approved hearing protectors with a noise reduction rating (NRR) of 25 dB (A)
   - Ear plugs (disposable or re-useable)
2. Avoid power lines. Serious injury or death can result from contact with electric lines. Never move any part of the equipment closer than 10 ft. (3 m) plus twice the line insulator length to an electric line. Use a signal person to guide the operator. Use shrouds or insulators as necessary.



3. It is the operator's responsibility to ensure the tow vehicle is properly maintained, including safety lighting and notifications. Do not use a tow vehicle before properly testing the road-worthiness.
   - Tire Pressure
   - Functioning traffic lights
   - Properly attached
   - Break-Away Switch
   - Tongue weight

⚠ WARNING ***Ensure that the tow vehicle has the capacity to control the fully-loaded XA1200 unit. Applicator weights are listed in this manual.***

4. Handle the battery with care. When removing or installing the battery, check which is the negative and positive terminal.

   Removing Batteries:
   1. Disconnect the (-) terminal connected to the ground wire
   2. Disconnect the (+) terminal connected to the starter

   When installing the batteries, follow this procedure in reverse order.

   Tighten the battery terminals securely; check that the terminals are not lose by trying to move the cables by hand. Loosened cables can generate sparks and lead to an explosion.
5. Never enter the tank through the loading hatch or riser atop the tank. Your slurry tank may be considered a confined space by OSHA under 29 CFR 1910.146. Before entering any confined space, your company must develop a procedure for safe entry. Make sure your company's plan meets all the requirements of 29 CFR 1910.146, and/or all applicable laws and regulations.
6. Before loosening any clamps or opening any valves, determine if material in the line is hot by feeling the pipe. Do NOT allow material to come in contact with personnel. Severe bodily injury could result.
7. Radiator maintenance: Liquid cooling systems build up pressure as the engine gets hot. Before removing radiator cap, stop the engine and let the system cool. Remove radiator cap only after the coolant is cool.
8. Filling of fuel: Never fill the tank with the engine running, while smoking, or when near an open flame. Never smoke while handling fuel or working on the fuel system. The fumes in an empty fuel container are explosive. Never cut or weld on fuel lines, tanks, or containers. Move at least 10 ft. (3 m) away from fueling point before starting engine. Wipe off any spilled fuel and let dry before starting engine.

   IMPORTANT: Be careful not to allow fuel, lubricant, hydraulic fluid, or cooling fluids to penetrate into the ground or be discharged into the water system. Collect all fluids and dispose of them in accordance with all applicable laws and regulations.
9. To prevent fires, remove all fiber mulch, leaves, paper and other flammable material accumulated in the engine compartment or other places on the applicator. This could cause a fire.

   Marshland, when dry, is highly flammable. Marshland can self-ignite even in low temperatures. Always keep the engine compartment and engine clean.

OPERATION AND MAINTENANCE MANUAL

This manual gives you step-by-step instructions for the operation and maintenance of the Apex XA Series Applicator. For best results and to ensure longer life of the equipment, please follow these instructions carefully. For your safety, read the entire manual before operating this unit.

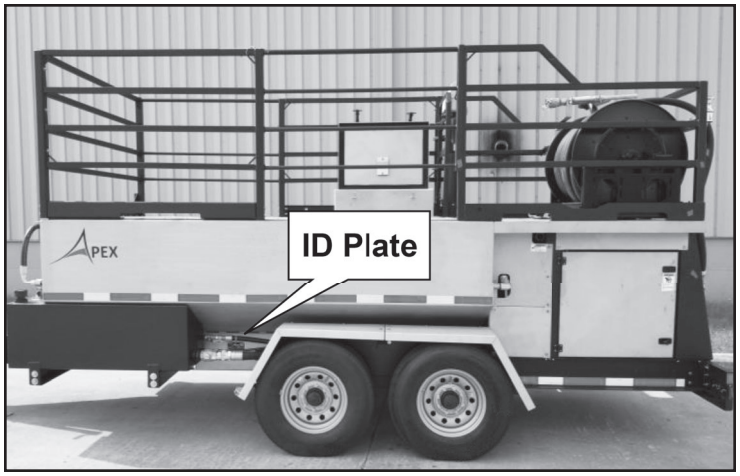
EQUIPMENT DESCRIPTION

The Apex XA1200 is a self-contained applicator. The Apex XA1200 Applicator is used to apply liquid-based materials to any commercial, residential, mining sites, landfills, golf courses, rail lines, oil/gas wells and lines; as well as any locations where a liquid-based material is required. The Apex XA1200 Applicator is used to mix and apply dust control palliative, all types of hydraulic mulches (wood and paper and blends), BFM (Bonded Fiber Matrix), ADC (Alternative Daily Cover), and all types of seeds, fertilizers and lime.

The Apex XA1200 Applicator uses a fifteen (15) blade hydraulically-driven agitator within the tank that is variable speed and reversible. The mixing system is engineered to quickly blend the thickest materials used in the industry. The Apex XA1200 Applicator's stainless steel tank provides many years of corrosion-resistance when cleaned after every use. The Apex XA1200 Applicator's vortex slurry pump will discharge a variety of materials at distances up to 185 feet (56 meters) without modification to the pump or adjusting the mixing instructions and is engineered to allow the complete emptying of the mixing tank.

REFERENCE INFORMATION

Each Apex Applicator has an identification plate with its model number, serial number, and other related information. This plate is located on the left-hand side of the unit, from the operator's perspective. Use the serial number on this plate to identify the most applicable version of the operator's manual. There is a space provided on the front cover to write down your model number and serial number.



ORIENTATION

For the sake of this manual, the front of the machine is the side with the trailer hitch. The rear of the machine is equipped with a ladder. The left, right, top and bottom are referenced from the operator's position facing the front of the machine, with his back towards the side with the ladder.

TRAINING

BEFORE operating this equipment, read the following guidelines. This will help to you to minimize the hazards associated with the use of the XA1200 Applicator. Not all situations will apply to your unit since the applicator configuration and specific job requirements will vary considerably.

- The XA1200 Applicator must only be operated by a trained and qualified operator who is familiar with the controls and their use.
- Read the Operation Section PRIOR to operating the machine in order to learn how to use the control devices properly.
- Be sure you understand the meaning of the WARNING signs and other CAUTION messages throughout this manual.
- Remember the check points and the method for checking fluid levels.
- Visually inspect the machine and check the function of all lighting and instruments before use.
- Frequently check the instrument panel. Do not operate the XA1200 Applicator when the display indicates a malfunction or error.

HAULING AND TOWING

The following items should be checked before transporting the applicator. These safety items are in place to protect personnel during operation as well as during transportation between jobsites.

- Check that all turn signals and brake lights are functioning properly. Correct any nonfunctioning lights immediately.
- Check tires for proper inflation (110 psi).
- Be sure the towing vehicle has a fire extinguisher that is charged and working. The fire extinguisher should be located in the cab of the towing vehicle.

⚠ WARNING ***Operating or transporting with faulty safety devices is extremely dangerous. Failure to correct any of these components could result in severe personal injury or death.***

SAFETY WHILE REFUELING

Diesel fuel is flammable and explosive under certain circumstances. Observe these safety practices:

- Always handle fuel in a well-ventilated area.
- Do not smoke or allow open flames or sparks in the vicinity.
- Do not refuel with the engine hot or running.
- Avoid physical contact with diesel fuel.
- Regularly inspect fuel system components.
- If fuel or fumes are noted while operating the XA4000, the cause should be determined immediately.
- Never open the fuel lines or loosen the injectors if the applicator runs out of fuel.
- Avoid inhalation of exhaust particulate dust. Wear a dust mask. If respiratory irritation or discomfort occurs, leave the dusty area. Utilize breathing assistance or oxygen if necessary.
- Elevated concentrations of metals in the form of dust, soot, and contaminates are contained in these filters. Health regulations may exist for the materials found in these filters such as Zinc, Molybenum, polynuclear aromatic sulfur, and iron.
- Proper disposal of the exhaust dust and filter are required. Dispose of in accordance with local and environmental regulations.
- Diesel particulate filter maintenance MUST be completed by appropriately trained personnel.

PRE-OPERATION INSPECTIONS

The Pre-Operation Inspection that an operator does before starting a piece of equipment is the single most important responsibility of the day. The operator is the key component in the walk-around and it is their responsibility to solicit help as required if areas of distress or concern are noted. Cell phones and digital pictures are extremely helpful when communicating potential problems or concerns.

Many operators overlook vital aspects of the walk-around such as fluid type and quantity. To maximize the effectiveness of a fluid it must be the proper viscosity and quality at starting temperatures. Next in degree of importance is the fluid quantity. Too much fluid can be as harmful as too little fluid. Be sure all fluids are in the proper level range and refer to the Fluid Specifications and Tank Capacities Chart of this manual whenever replacing or adding fluids.

- The walk-around should be performed before each shift and before moving the machine or even starting the engine.
- The following describe in detail the recommended items to be checked, whether it is a daily check (every 8 hours) or a weekly check (every 40 hours).

Once the Pre-Operation Walk-Around is complete a final inspection should be done by operating the applicator for a short period of time. Stop the unit and check the gauges and display screen.

PRE-OPERATION CHECKLIST

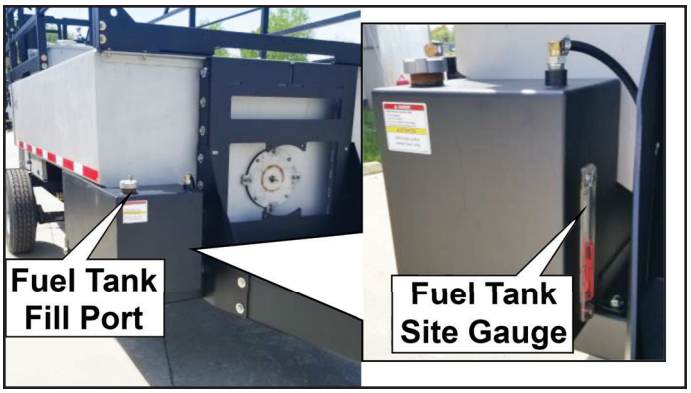
Before operating the applicator it is important to inspect the following items for safety and performance.

- CHECK EVERY 8 HOURS (DAILY)
  - ☐ Refill Fuel and DEF
  - ☐ Check engine oil level
  - ☐ Check engine coolant level
  - ☐ Check hydraulic fluid level
  - ☐ Check fuel/ water separator
  - ☐ Check hydraulic filter restriction indicators
  - ☐ Verify that all lighting is in working order
  - ☐ Inspect that all railings are in place and secure
  - ☐ Inspect that all safety guards are in place
  - ☐ Inspect that the mixing tank is free from foreign objects
- CHECK EVERY 40 HOURS (WEEKLY)
  - ☐ All Safety Decals
  - ☐ Safety surfaces for wear
  - ☐ Check hydraulic hoses for any wear
  - ☐ Check engine air filter for clogs and debris

PRE-OPERATION INSPECTIONS (CONTINUED)

RE-FILLING FUEL

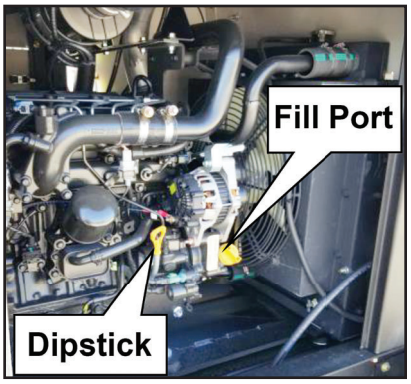
Always use fresh diesel fuel when re-fueling the XA1200 Applicator. The fuel tank is sized to allow for continuous work for 8 hours between fill-ups. The fuel tank fill port is located on the front of the unit, on the right side. The sight gauge is located on the side of the fuel tank.



CHECK ENGINE OIL LEVEL

Check the engine oil level daily prior to starting the engine. The applicator should be on a level surface when checking the oil level.

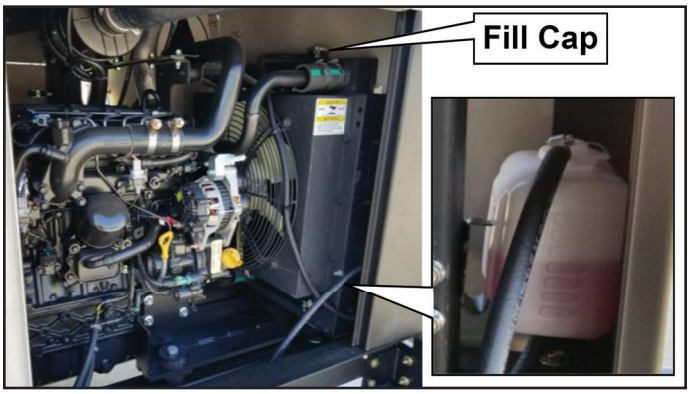
1. To access the engine oil dipstick, open the engine compartment door on the left side of the applicator.
2. Remove the engine dipstick and check the level. The oil level should be between the “ADD” mark and the “FILL” mark. If the oil level is low add oil through the fill port to the proper level.



CHECK ENGINE COOLANT LEVEL

Check the engine coolant level daily before starting the engine. The applicator should be on a level surface and the coolant should be cold.

1. The coolant reservoir is located in the engine compartment, on the left side of the applicator.
2. Check that the reservoir bottle is half-full.
3. Fill the coolant through the fill cap, located on the top of the engine radiator.



⚠ WARNING ***Never remove the coolant reservoir cap when the engine is hot. To avoid severe burns, do not inspect the coolant system or attempt to add coolant if the engine is hot.***

⚠ CAUTION ***Failure to correct any problem causing a coolant leak can result in severe engine overheating. Any coolant leaks should be corrected immediately.***

PRE-OPERATION INSPECTIONS (CONTINUED)

CHECK HYDRAULIC FLUID LEVEL

Check the hydraulic oil level daily prior to operation. The applicator should be on level surface and the oil should be cold. Locate the sight glass on the front of the unit, on the left side of the applicator.

⚠ WARNING ***Never remove the reservoir cap when the engine is hot. To avoid severe burns, do not inspect the hydraulic system or attempt to add hydraulic fluid if the engine is hot.***

⚠ CAUTION ***Failure to correct any problem causing a fluid leak can result in severe engine overheating. Any coolant leaks should be corrected immediately.***

⚠ CAUTION ***Improper oil type can cause damage to the hydraulic system and shorten component life. Use the appropriate oil for your application and environment and follow the recommended service intervals.***

FUEL/WATER SEPARATOR

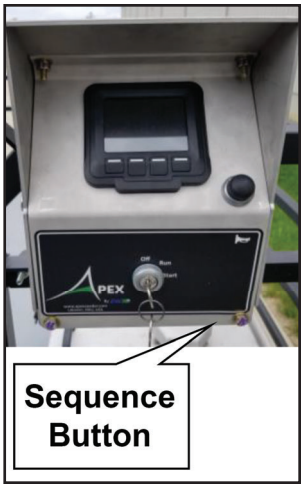
Drain the fuel/water separator as needed. Depending on working conditions and fuel suppliers, it is possible for water to become mixed with fuel. This could be caused by normal temperature changes throughout the day or a contaminated fuel source.

1. The fuel/water separator is located in the engine compartment, on the left side of the applicator.
2. Loosen the drain at the bottom of the filter housing and drain the water into a suitable catch basin. Dispose of properly.
3. Be sure to tighten the drain after servicing to avoid introducing air into the fuel system.

Refer to the Maintenance section for details on servicing the fuel/water separator.

VERIFY LIGHTING

The XA1200 is equipped with a warning beacon light to alert bystanders. The strobe light has an adjustable pattern for work area identification. The strobe sequence can be changed via a button on the bottom of the Operator's Control Panel at the Control Station.



PRE-OPERATION INSPECTIONS (CONTINUED)

GENERAL OPERATOR SAFETY GUIDELINES

The following guidelines will support the safe and efficient operation of the XA Series Applicator. All operators should read them and commit them to memory.

- Do not carry passengers on the machine.
- Do not operate the XA1200 Applicator with bystanders nearby.
- Only operate the XA1200 Applicator at speeds under 5 mph when personnel are present.

APPLICATOR PREPARATION AND MAINTENANCE

1. Shut-off the engine. Park the applicator in manner that it is immobilized.
2. Wait until all machine components have completely stopped before touching them.
3. Use lockout/tagout procedure 29CFR 1910.147 during any inspection or maintenance.
4. Periodically remove debris and dust from the applicator. Remove fibrous material build-up between hoses, pumps, lines, and other confined areas. Use a blower to remove the dust and fibrous material off the entire unit at least twice per day. This is essential to continued successful operation and fire prevention.
5. Open all compartments and remove all flammable debris such as fiber mulch, leaves, twigs, pine needles, wood chips, dust and any leaking or spilt oil or fuel.
6. Upon discovery of oil or fuel leaks, repair and clean up immediately. Oil attracts dust and creates a fire hazard by insulating lines causing excess heat generation. Inspect and clean all dust from fittings and lines.
7. Clean the radiator as required to avoid overheating.
8. Use water only if it can dry thoroughly before operating. Dust clings to anything wet and a wet radiator can quickly become a problem.
9. Contain and dispose of any petro-chemical runoff through a licensed processing facility. Do not dispose of petro-chemical runoff into municipal waste.
10. Do not use high pressure washer directly on electrical contacts.
11. Be careful using high-pressure washers, which may bend and split the radiator fins.
12. Refer to the Safety Section of this manual for more information.

PREVENTATIVE MAINTENANCE

Proper preventive maintenance will help ensure that the applicator will perform to its full capabilities and eliminate unnecessary breakdowns due to neglect. The manufacturer’s warranty is conditional upon following all maintenance recommendations.

1. Dismantle the unit only on flat and firm ground.
2. Always double-check the stability of the machine before reaching under or into the machine.

SAFETY WHILE MAINTAINING

- Be sure the applicator is parked and immobilized before performing any maintenance.
- Do not bypass the safety features.
- Never modify the safety railing.
- Never jump on or off the unit.
- Always clean off grease, oil, ice, snow and dirt to avoid slippery surfaces.

PRE-OPERATION INSPECTIONS (CONTINUED)

ENTERING AND EXITING THE OPERATOR STATION

- Always use handles and steps when entering and exiting the Operator’s Station.
- ENSURE SAFETY, maintaining at least three-point contact of hands and feet with handles and steps.

MACHINE CONTROLS

CONTROLLER MASTER DISPLAY

The XA1200 utilizes a Controller Master Display to communicate with the engine and other systems on the applicator. This allows for easy adjustments to the agitator pump, slurry pump and other outputs This display will also alert the operator to any error messages it detects. This display is mounted in the Operator Control Panel at the Operator Station.

HOME SCREEN

The Home Screen displays the engine RPM, engine hours, coolant temperature, engine oil pressure and the date and time.

PUMP CONTROL

The Pump Control Screen is accessed by pressing the button under ‘PUMP CTRL’ on the Home Screen. Press the green ‘PUMP ON’ button to engage the slurry pump. Press the red ‘PUMP OFF’ button to disengage the slurry pump. Use the UP and Down arrow buttons to increase or decrease the speed of the pump.

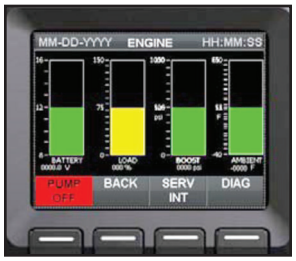
The pump control will default to the minimum setting to avoid accidental discharge of material at engine startup.

Pressing the back button will return to the Home Screen.

MACHINE CONTROLS (CONTINUED)

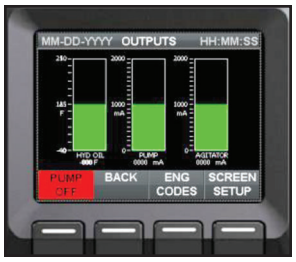
ENGINE SCREEN

The Engine Screen displays detailed engine information, such as battery voltage, load percentage, boost pressure and the ambient temperature.



OUTPUTS/DIAGNOSTIC SCREEN

The Output Screen is accessed from the Service Intervals Screen or the Engine Screen. This screen shows hydraulic oil temperature, slurry pump setting, and agitator setting.



SERVICE INTERVALS SCREEN

The Service Intervals Screen, access from the Engine Screen, shows the standard service intervals for the XA1200. The operator can also access the Engine Codes Screen and the Diagnostic Screen from the Service Intervals Screen by pressing the Screen Setup button.

SCREEN SETTINGS

The Screen Settings Screen allows the operator to adjust the backlight level, unit of measure, time/date and language. Access the Screen Settings from the Diagnostic Screen by pressing the Screen Setup button.

MACHINE CONTROLS (CONTINUED)

AGITATOR CONTROL

The Agitator Control lever is located on the left side of the Operator Control panel. The agitator is in neutral when the lever is centered. Move this lever forward to engage the MIX mode. Moving the lever further forward increases the agitator RPM. Move this lever rearward to engage the SPRAY mode. Moving the lever further rearward increases the agitator RPM.

NOTICE ***Be careful to mix materials at the proper agitator RPM. Mixing materials at too high of an RPM could cause clumping or other issues.***

HORN

The horn is located on the Operator Control Panel.

IGNITION SWITCH

The ignition switch is located on the Operator Control Panel, below the Controller Master Display.

STARTING PROCEDURE

⚠ CAUTION ***Do not operate the starter for more than ten (10) seconds at a time. If engine does not start, allow at least sixty (60) seconds cool-down period between starting attempts. Not following these guidelines may cause damage to the starter.***

⚠ CAUTION ***If the key switch is released before the engine has started, allow the starter and engine to completely stop before re-engaging the starter. This will prevent possible damage to the starter and/ or engine flywheel.***

To start the engine, perform the following steps:

1. Insert the key into the ignition switch and turn the key to the RUN position.
2. Wait for the Home Screen to appear and verify the system is ready.
3. Turn the key to START position and release once the engine has started.

NOTICE ***In cold start situations, the display will show the "Wait to Start" message. Wait until this message disappears to crank the engine.***

PRE-OPERATION WARM-UP

Allow the cold engine to run at idle for five (5) minutes or more while the engine coolant and hydraulic temperatures rise to the operating temperature. In extremely cold conditions it may take thirty (30) minutes or more for all fluids to reach normal temperature levels.

STARTING PROCEDURE (CONTINUED)

STARTING WITH JUMPER CABLES

⚠ WARNING ***Batteries emit flammable fumes that are explosive, resulting in injury. Prevent sparks near batteries. They could cause vapors to explode.***

⚠ WARNING ***Do not allow the jumper start cables to contact each other or the applicator.***

⚠ WARNING ***Always wear eye protection when starting with jumper cables.***

⚠ WARNING ***Improper jump start procedures can cause an explosion resulting in personal injury. Always connect the battery positive (+) to battery positive (+) and the battery negative (-) to the battery negative (-).***

⚠ WARNING ***Only jump start with an energy source the same voltage as the stalled applicator.***

⚠ WARNING ***Turn OFF all lights and accessories on the stalled applicator. Otherwise, they will operate when the energy source is connected.***

NOTICE ***When starting from another machine, make sure the two machines do NOT touch. This will prevent possible damage to engine bearings and electrical circuits.***

The XA1200 uses a 12 volt starting system. Use the same voltage for jump starting.

1. Turn the ignition switch of the stalled unit to the "OFF" position.
2. Move the power source machine to a location close enough to the stalled unit that the cables can reach the batteries. Do not allow the machines to touch.
3. Turn off the engine on the power source machine.
4. Connect the red jumper cable to the positive terminal (+) on one battery of the stalled unit.
5. Connect the other end of that cable to the positive terminal (+) on the power source machine.
6. Connect the black cable to the negative terminal (-) on the other battery on the stalled unit.
7. Connect the other end of the black cable to the negative terminal (-) on the other battery on the power source machine.
8. Start the engine of the power source machine.
9. Allow the power source machine to charge the stalled unit for a few minutes. Start the engine of the stalled unit.
10. Wait approximately 2 minutes after the stalled unit starts and remove the battery cables in the reverse order they were installed.

STOPPING THE ENGINE

⚠ WARNING ***Severe machine damage can result if the engine is not properly cooled before shutdown. Allow the engine to run at idle for at least five (5) minutes to allow a gradual uniform cool down.***

Before stopping the engine, perform the following steps:

1. Be sure the slurry pump is turned off and the agitator has stopped spinning.
2. Close all slurry valves.
3. Lower the engine RPM to idle for at least five (5) minutes to allow the proper cool down.
4. To stop the engine, rotate the ignition key to the OFF position.

OPERATING INSTRUCTIONS

PURGE AND CLEAN

⚠ CAUTION ***Prior to adding materials, insure that the tank and plumbing (discharge) systems are clear of any obstructions. Failure to do so could result in damage to the applicator.***

1. Open the fill port ball valve (if equipped) and begin filling the tank with water.
2. Open the boom ball valve.
3. Close the recirculation ball valve and the hose reel ball valve (if equipped).

4. Start the engine and run at idle (1350 RPM) until the engine reaches normal operating temperature.

NOTICE ***The XA1200 incorporates a 2-position engine throttle, idle speed (1350 RPM) and full speed (2500 RPM). The engine throttle automatically increases to full speed whenever the slurry pump is engaged. The engine will return to idle speed when the slurry pump is disengaged.***

5. Securely hold the discharge boom handle, then engage the slurry pump by pressing the “PUMP CTRL ON” button on the display.

⚠ CAUTION ***Be sure the boom is aimed at a vacant area free of all personnel. Pressurized water from the boom could cause minor to moderate personal injury.***

6. Increase the speed of the slurry pump by pressing the UP arrow in the display. Water should discharge through the boom until clear. The boom is now purged. Close the boom ball valve.
7. Open the hose reel ball valve and, while securely holding the hose end, open the remote hose valve. Water should discharge through the hose until it runs clear. The hose reel is now purged. Close the hose reel ball valve.
8. Open the recirculation ball valve to allow the slurry pump to circulate water through the system to purge the recirculation circuit. Water should discharge into the tank until it runs clear. The recirculation circuit is now purged. Close the recirculation ball valve.
9. Disengage the slurry pump by pressing the “PUMP CTRL OFF” button.

OPERATING INSTRUCTIONS (CONTINUED)

MIXING MATERIALS

⚠ DANGER ***Contact with rotating equipment can cause serious injury or death. Do NOT wear loose clothing or jewelry that could get caught in the agitator.***

⚠ DANGER ***Hydroseed material can produce gases that are harmful or deadly if inhaled. Empty the slurry tank daily to prevent build-up of these gases.***

⚠ DANGER ***Do not store material for long periods of time in the slurry tank. Harmful or deadly gases could result.***

⚠ CAUTION ***Take care not to drop objects into the tank. Failure to do so could result in minor to moderate personal injury. Failure to comply could also result in product or property damage.***

⚠ CAUTION ***Keep operators and bystanders away from moving parts.***

As the ratio of water and materials changes, it may become necessary to suspend mixing and allow the water level to increase in the slurry tank. Return the Mix control to NEUTRAL to do this. Once the water level reaches an appropriate level simply engage the controls to MIX and allow product to blend within the tank.

> **NOTE:** If filling water from a pond or stream it is recommended that a suction strainer be used to prevent any foreign objects from entering the tank. These objects could cause damage to the pump. Additionally, it is imperative that all local laws and codes be followed if filling the tank from a public water source.

After the discharge lines are confirmed to be clear begin adding materials. Begin by adding the lightest materials first. If using powdered products (lime, seed, tackifiers) add these first to prevent any “gumming” of product. This will also insure equal dispersion of the product.

Only when adding hydraulic mulches, BFM’s or baled type products, open the grate on the hatch.

⚠ DANGER ***Operating the applicator with the hatch open is extremely dangerous and could result in severe injury or death. Be careful to keep all personnel a safe distance from the open hatch.***

OPERATING INSTRUCTIONS (CONTINUED)

APPLICATION OF PRODUCT

Determine Application Rate

The following guidelines are based on rates in pounds-per-acre (lbs./acre):

1. Multiply the total square feet to be covered by desired mulch rate in lbs./acre.
2. Divide the answer to Step 1 by 43560 (square feet in 1 acre).
3. Divide the answer to Step 2 by the number of pounds per bag. This equals the number of bags per load.

Material Rates are supplied on most mulch product packaging. Generally, the rates for wood mulches are 50 pounds of mulch per 100 gallons of water. BFM's and more viscous materials are generally 40 pounds of mulch to 100 gallons of water. Confirm these rates with the specific manufacturer of the mulching material. For hose reel applications use the 40/100 gallon mix rate.

Use the chart below to create a guideline for standard mixing materials.
Confirm these rates with the product supplier.

The first line below is an example based on the use of seed, fertilizer and mulch.

SEED (lbs.)	FERTILIZER (lbs.)	MULCH (lbs.)	NUMBER OF BAGS (50 lb. bags)	COVERAGE AREA (sq./ft.)
140	**139**	**600**	**10**	**17424**

OPERATING INSTRUCTIONS (CONTINUED)

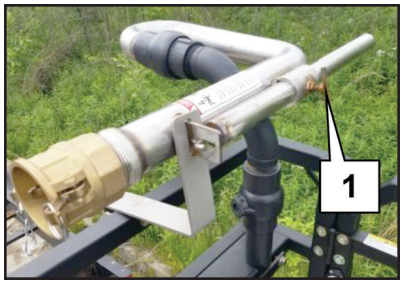
APPLICATION OF PRODUCT (CONTINUED)

Application from Discharge Boom

⚠ DANGER ***Serious injury or death can result from contact with electric lines. NEVER move any part of the equipment closer than 10 ft. (3 meters) plus twice the line insulator length to an electric line. Use a signal person to guide the operator.***

⚠ DANGER ***Do not aim the discharge spray toward power lines, transformers or other high voltage electrical conductors. Also, do not aim the discharge spray towards people, animals or anything other than the intended application area.***

1. Observe the application area for any obstructions that might be present.
2. Determine with driver signals, when to move, stop or back up as well as a means to communicate between the driver and the operator.
3. Unlatch the discharge boom from its transport location:
   a. Rotate item 1 counter-clockwise to loosen the fastening screw.
   b. Rotate the handle to unlatch from the keeper plate.
   c. Slide the handle to allow the discharge boom to pivot.
   d. Rotate the boom nozzle to disengage the tab from the keeper plate.
   e. Rotate the tab outward to clear the work area above the guard rail.



⚠ CAUTION ***Be sure the boom is aimed at a vacant area free of all personnel. Pressurized water from the boom could cause minor to moderate personal injury. It is the Boom Operator's responsibility to ensure personnel on the ground do not enter the spray zone.***

4. Select the appropriate nozzle.
5. Confirm the gasket is correctly in place before connecting.
6. Open the discharge ball valve.
7. Aim discharge boom at the area where product is to be applied.
8. Firmly hold the discharge boom handle.
9. Press the ***PUMP CTRL ON*** button to engage the slurry pump. Press the ***PUMP UP*** button and material will begin to flow through the discharge boom. Use the ***UP*** and ***DOWN*** arrow buttons to increase or decrease the spray distance.

NOTE: Prior to engaging the Slurry Pump, it is recommended to cycle the Agitation Control Lever several times and confirm that all bales are completely in suspension.

NOTICE ***The XA1200 incorporates a 2-position engine throttle, idle speed (1350 RPM) and full speed (2500 RPM). The engine throttle automatically increases to full speed whenever the slurry pump is engaged. The engine will return to idle speed when the slurry pump is disengaged.***

10. Apply product evenly along the area.

NOTE: It may be necessary to apply the product in multiple directions to cover the area.

⚠ WARNING ***Do not exceed 5 mph operating speed. Excessive speed could cause severe injury or death.***

⚠ WARNING ***Take note of uneven ground or obstacles that the operator may not notice and communicate them immediately. Operating on unstable surfaces could cause severe injury or death.***

OPERATING INSTRUCTIONS (CONTINUED)

APPLICATION OF PRODUCT

Application from Hose Reel (Optional - if equipped)

1. Observe the application area and make note of any obstructions that might be encountered.
2. Unroll the hose to the farthest point from the Applicator. Work back towards the Applicator to limit the foot traffic on the areas with product already applied.
3. Select the appropriate nozzle.
4. Open the recirculation ball valve.
5. Open the hose reel ball valve to apply material to the application area.
6. Engage the Slurry Pump. Material will begin to flow through the hose and back to the tank through the recirculation circuit.

NOTE: Prior to engaging the Slurry Pump, it is recommended to cycle the Agitation Control Lever several times and confirm that all bales are completely in suspension.

NOTICE ***The XA1200 incorporates a 2-position engine throttle, idle speed (1350 RPM) and full speed (2500 RPM). The engine throttle automatically increases to full speed whenever the slurry pump is engaged. The engine will return to idle speed when the slurry pump is disengaged.***

7. Moving along the seedbed, the operator should move the discharge nozzle back and forth in a slow, even arc to ensure even distribution of the material.

Extension Hose System – Without Remote Valve

1. Connect the extension hose into the end of the discharge boom.
2. The person controlling the end of the hose directs a second operator at the machine to control the pump ON and OFF and speed.

Since the extension hose will be experiencing full output of the pump with the recirculation valve closed, the equipment operator and person at the end of the hose should exercise extreme care when operating the unit on high pressure.

⚠ CAUTION ***High pressure on the hose can exert strong forces with the potential for the hose operator to lose control of the hose or their footing. The hose will require additional holders when operation occurs on slopes. Turn on the pump only after the hose operator is firmly positioned and has firm control of the hose. Failure to comply could result in minor to moderate personal injury. Failure to comply could also result in product or property damage.***

3. When the operator is ready, signal the second operator to turn on the Slurry Pump and slowly increase the slurry pump output until the desired discharge pressure is reached.
4. When finished spraying, turn off the Slurry Pump and close the discharge valve. If using fiber mulch, retain as much water as possible in the hose by elevating the hose ends or by coupling the hose ends together.
5. If another load is required, see RELOADING PROCEDURE. If finished for the day, follow the DAILY CLEANING AND MAINTENANCE.

OPERATING INSTRUCTIONS (CONTINUED)

APPLICATION OF PRODUCT

Hose Work With Radio Transmitter (if equipped)

1. Close the recirculation valve. If using an extension hose connected to a discharge boom, open the discharge valve. If using the hose reel, close the discharge valve and open the valve to the hose reel.
2. Turn the remote transmitter ON.
3. When the operator is in position, turn on the pump using the remote transmitter and increase the pump speed to the desire output.

NOTE: To quickly shut off the engine at any time, press the red Emergency Stop (E-Stop) Button on the transmitter. To restart the engine, return the key switch on the control panel to the OFF Position.

4. When finished spraying, turn the pump off.

⚠ CAUTION ***When using the radio remote control option, the secondary operator(s) must be aware that the machine can be remotely activated at any time. If any maintenance or troubleshooting needs to be performed while the engine is running, the Remote On/Off switch must be in the OFF position. Failure to comply could result in minor personal injury or product or property damage.***

RELOADING PROCEDURE

It is very important to clean and purge the tank and discharge plumbing after each load. This will prevent ‘clumping’ of material, which could result in a blockage in the discharge plumbing.

1. Fill the tank to the bottom of the agitator shafts with water.
2. Engage the agitator in both directions to dislodge material in the tank.
3. Begin by spraying water through the primary and secondary discharge cannons. Continue spraying until the discharge water is clear.
4. Spray water through the discharge hose. Continue spraying until the discharge water is clear.
5. Open the recirculation valve and cycle material through the recirculation plumbing until the water is clear.
6. Follow steps for **Mixing Materials** Section listed earlier in this manual.
7. After the last load of the day, fill the tank with sufficient water to rinse the inner tank walls. Purge the discharge plumbing with water to remove the mulch materials from the pipes. If hose work was undertaken, rinse the interior of the hose as well.

CLEANING AND MAINTENANCE

DAILY

After the last load of the day, fill the tank with sufficient water to rinse the inner tank walls. Purge the discharge plumbing with water (Steps 1 through 5 in the **Reloading Procedure** Section) to remove the mulch materials from the pipes.

If hose work was undertaken, rinse the interior of the hose as well.

⚠ DANGER ***Hydroseed material can produce gases that are harmful or deadly if inhaled. Empty the slurry tank daily to prevent build-up of these gases. Do not store material for long periods of time in the slurry tank. Harmful or deadly gases could result.***

1. Fill the slurry tank to the center of the agitator shaft with clean water.
2. Move the agitator lever to full speed to flush off the inside of the tank top and walls. Repeat in the opposite direction.
3. Follow purge and clean instructions.
4. Turn off the slurry pump, move the valve handle to the DISCHARGE position, move the agitator handle to NEUTRAL and turn off the engine.
5. Always remove the main drain plug and allow the tank to drain.
6. In freezing weather, leave the main drain plug out and remove the pump drain plug. Move all slurry valves to the OPEN position.
7. Rinse the outside of the Applicator to remove any excess materials.
8. Make sure all the tank vents are clean and open. DO NOT plug or cap.

NOTE: Lubrication should be performed IMMEDIATELY AFTER cleaning of equipment. Refer to **Lubrication** Section for details on lubricating the applicator.

WEEKLY

1. Clean the air cleaner following the instructions in the Engine Operator's Manual.
2. Lubricate all the points on the applicator as outlined in **DAILY** subsection.
3. Check the level in the hydraulic oil reservoir.
4. Check coolant level.
5. Inspect the slurry tank for buildup of residue in the suction area and clear if necessary.
6. Check and clean engine radiator. Flush with clear, low-pressure waterspray and blow dry with compressed air. Do NOT use high-pressure water spray.

MONTHLY

1. Lubricate the agitator shaft bearing located on the outside front of slurry tank.
2. Lubricate the two pump bearings.

CLEANING AND MAINTENANCE (CONTINUED)

FLUIDS AND COMPONENTS

		U.S. GALLONS	IMPERIAL GALLONS	LITERS	TYPE
XA1200	**Engine Oil**	2.25	1.9	8.5	10w-30
	Hydraulic Oil	42	35	159	AW46
	Fuel	37	31	140	Ultra Low Sulfur Diesel
	Engine Coolant	2.5	2.1	9.4	50/50 glycol

Engine Oil

Be sure to check the engine oil before operation. Add oil if the level is low. Refer to the engine Operator Manual for engine oil dipstick location, special instructions and engine oil specifications.

ENGINE SPECIFICATIONS	
Make	Doosan
Model	DLO2-LER02
Rated HP	74HP (54KW @ 2500 RPM
Rated Torque @ RPM	206 lb/ ft (280 Nm) @ 1500 RPM

Engine Fuel

Always use premium diesel fuel. Refer to the engine Operator Manual for recommended fuel types.

Hydraulic Oil

The XA1200 is factory filled with AW46 hydraulic oil. This provides the proper operating characteristics over a wide range of temperatures. Improper oil type can cause damage to the system and shorten component life. Use the appropriate oil for each application and follow the fluid specifications and tank capacity referenced above.

Add hydraulic fluid through the fill port on top of the hydraulic tank, located on top of the applicator, under the plate labeled “Hydraulic Access”.

Engine Coolant Level

The XA1200 is factory filled with 50/50 glycol/water mix. This provides freeze protection for the engine at temperatures down to -30° Fahrenheit. It may be necessary to change the coolant based on each machines’ application.

Check the engine coolant level daily before starting the engine. The XA1200 should be on a level surface and the coolant should be cold.

1. The coolant reservoir is located in the engine compartment, on the left side of the applicator.
2. Check that the reservoir bottle is half-full.
3. Fill the coolant through the fill cap, located on the top of the engine radiator.

CLEANING AND MAINTENANCE (CONTINUED)

FLUIDS AND COMPONENTS (CONTINUED)

Servicing the Fuel/Water Separator

The primary fuel filter is the water separator, which should be drained periodically.

1. Place a suitable catch basin under the filter and loosen the drain plug on the bottom of the filter housing to remove the water.
2. Be sure to tighten the drain plug after servicing to avoid introducing air into the fuel system.

The primary filter also has a priming pump which can be used to prime the fuel system in the event the machine runs out of fuel or during filter servicing.

1. Pump the priming bulb several times until it becomes hard to compress.
2. Crank the engine with the keyswitch for 3-4 seconds.
3. Pump the primer bulb again until it becomes difficult to compress.
4. Crank the engine with the keyswitch until the engine starts.

⚠ CAUTION ***Be careful not to crank the engine for more than thirty (30) seconds without at least a 2 minute cool down period. This will prevent damage.***

⚠ CAUTION ***Do not prefill the filter element with fuel before installing. This could introduce dirt into the fuel system and damage engine components. Utilize the priming pump on the engine to fill the filter with fuel.***

Engine Air Filter

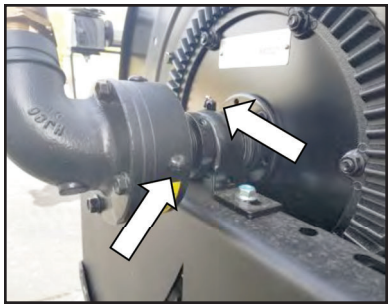
The XA1200 is equipped with a dual stage engine air filter. Apex recommends replacing the inner filter every time the outer filter is changed.

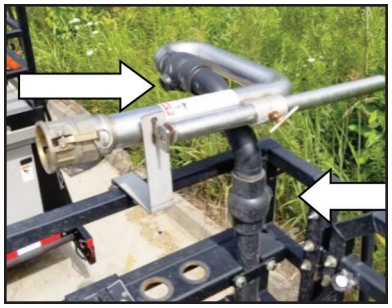
Do not use compressed air to clean the filter between servicing. Cleaning the air filter can introduce dirt into the engine, causing severe damage.

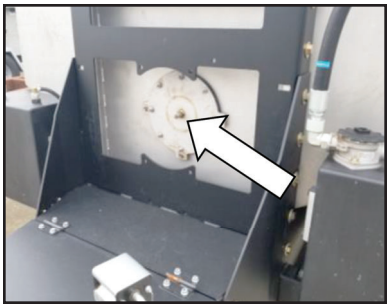
LUBRICATING GREASE

The XA1200 is completely serviced before leaving Apex. The operator should be familiar with all grease points as well as the proper grease type for each application. Apex uses NLGI #2 EP rated grease that provides the proper protection in a wide range of temperatures.

There is one grease point on the XA1200 at the front of the unit, for the agitator bearing, two grease points on the slurry pump drive shaft, two grease points on the discharge boom swivel and two on the hose reel, if equipped.



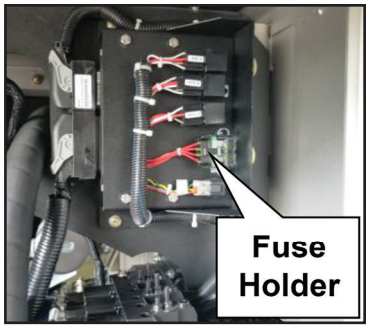




CLEANING AND MAINTENANCE (CONTINUED)

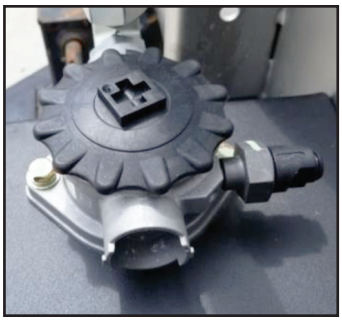
FUSE PANEL

There are three (3) fuses for the XA1200 located in the engine compartment on the right side of the applicator.



HYDRAULIC FILTER RESTRICTION INDICATOR

There are two hydraulic filters on the XA1200, one high pressure filter in the engine compartment and one return filter mounted in the top of the hydraulic tank. Each filter has a mechanical restriction indicator that will indicate when the filter is in need of service. The operator should visually check these filters daily.



CLEANING AND MAINTENANCE (CONTINUED)

SHORT TERM STORAGE

Drain the slurry tank of all water and material prior to storage and leave the drain plug uninstalled.

⚠ DANGER ***Hydroseed material can produce gases that are harmful or deadly if inhaled. Empty the slurry tank daily to prevent build-up of these gases. Do not store material for long periods of time in the slurry tank. Harmful or deadly gases could result.***

LONG TERM STORAGE

1. Drain the slurry tank of all water prior to storage and leave the drain plug uninstalled.
2. If possible, cover the machine with a tarp or park inside an enclosure.
3. Store the applicator with all of the slurry valve handles in the open position. To prevent damage from freezing, remove all of the slurry valves and store in a heated area.
4. Pour 1 quart (0.95 L) of mineral oil or environmentally safe lubricant into the pump housing and spin the pump to prevent rust in the pump. Remove the drain plug.
5. Lubricate all fittings.
6. Check the antifreeze in the radiator and add as necessary.
7. Lubricate the equipment again just prior to putting back into operation after having been in storage.
8. Change hydraulic oil and filter.
9. Disconnect the battery cables. In cold weather, remove the battery and store it in a safe, warm place.
10. Add fuel stabilizer to the fuel tank.

ENGINE STORAGE

The long term storage of an engine without adequate preparation will cause damages to external as well as internal components. Refer to the engine manufacturer documentation for the appropriate storage procedure.

DISPOSAL PROCEDURE

1. Do not discard into municipal waste stream.
2. Disassemble and contain hydraulic components in approved container.
3. Discard through a licensed processing facility.

MAINTENANCE CHART

Location	Description of Service	Frequency
Engine	Check oil level	Daily
Radiator	Check coolant level	Daily
Fuel Water Separator	Check for water and dirt	Daily
Engine Air Filter	Check dirt alarm and empty dust boot	Daily
Hydraulic Tank	Check oil level	Daily
Hydraulic System	Check for leaks or damage	Daily
Radiator/Air Cooler	Clean debris and check for leaks or damage	Daily
Hydraulic Cooler	Clean debris and check for leaks or damage	Daily
Check tire pressure	Tires should be at 110 psi	Daily
Check tire condition	Remove dirt and debris; check for wear	Daily
Agitator Bearing	Check and add grease	Daily
Engine Piping	Check inlet, exhaust, and ensure air clamps are tight; Check tubes for damage or leaks	Weekly
High Flow Filter	Change filter	100 hours, then every 500 hours
Return Hydraulic Filter	Change filter	100 hours, then every 500 hours
Engine Air Filter	Change primary and safety filter	As Indicated
Engine Oil	Change oil	50 hours, then every 500 hours
Engine Oil Filter	Change filter	50 hours, then every 500 hours
Fuel/Water Separator	Change filter	As Needed or every 250 hours
Hydraulic Oil	Change oil	100 hours, then every 500 hours; change as needed
Radiator	Flush coolant	2 years or 2000 hours

APPLICATOR DIMENSIONS

XA1200 SKID UNIT	
Weight Empty	5300 lbs. (2400 kg)
Working Weight	16000 lbs. (7257 kg)
Tank Capacity	1200 gallons (4542 liters)
Length	16 ft. 4 in. [196 in.] (5 meters)
Height	7 ft. 4 in. [88 in.] (2.25 meters) - overall
Width	6 ft. 7 in. [79 in.] (2 meters)

XA1200 STRAIGHT TOW UNIT	
Weight Empty	7100 lbs. (3220 kg)
Working Weight	17840 lbs. (8109 kg)
Tank Capacity	1200 gallons (4542 liters)
Length	21 ft. 3 in. [255 in.] (6.48 meters)
Height	8 ft. 11 in. [107 in.] (2.72 meters) - overall
Width	7 ft. 3 in. [87 in.] (2.21 meters)

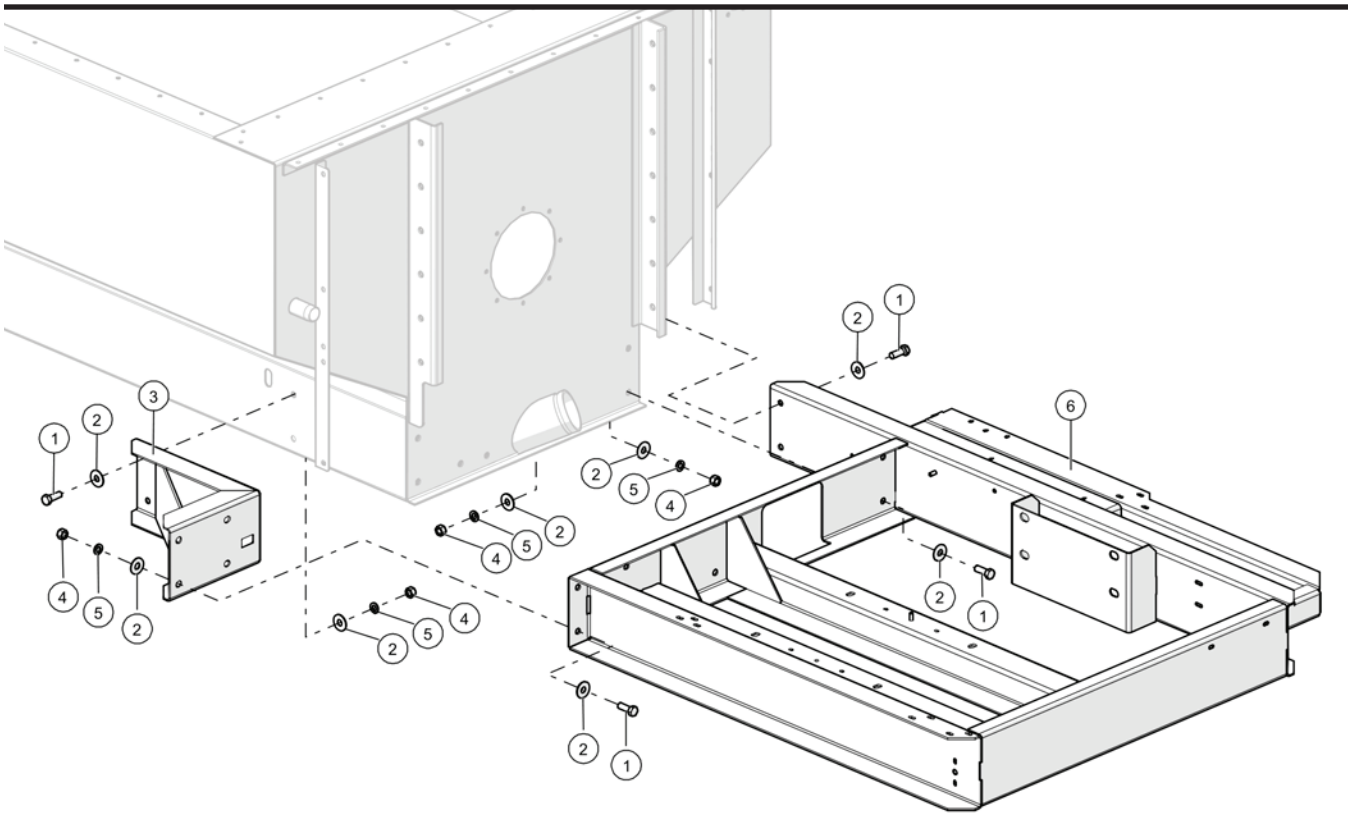
XA1200 GOOSENECK TOW UNIT	
Weight Empty	9120 lbs. (4137 kg)
Working Weight	19860 lbs. (9008 kg)
Tank Capacity	1200 gallons (4542 liters)
Length	24 ft. 0 in. [288 in.] (7.32 meters)
Height	9 ft. 3 in. [111 in.] (2.82 meters) - overall
Width	7 ft. 3 in. [87 in.] (2.21 meters)

XA1200 Applicator

Parts Manual

ENGINE BASE

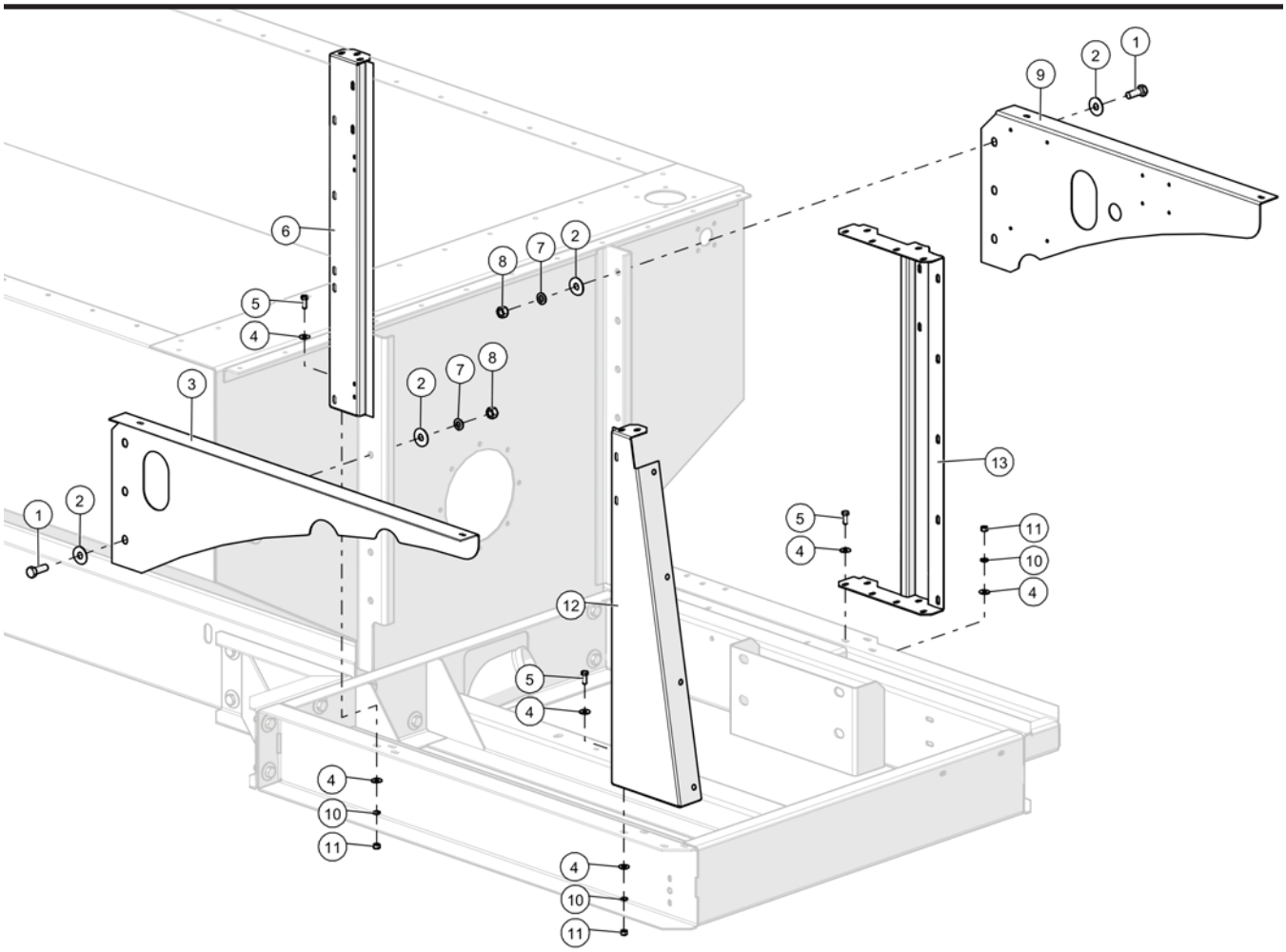
Ref. No.	Part Number	Description	No. Req'd
1	B10-1107-8	5/8-11NC x 1-3/4 in. L Hex Head Cap Screw, Grade 8	14
2	W10F	5/8 in. Flat Washer MAGNI 501	28
3	71-23-0004	Engine Base Support Rib Weld	1
4	N10-11-8	Hex Nut	14
5	W10L	5/8 in. Lock Washer	14
6	71-23-0013	Engine Base Weldment	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE BAY RIBS

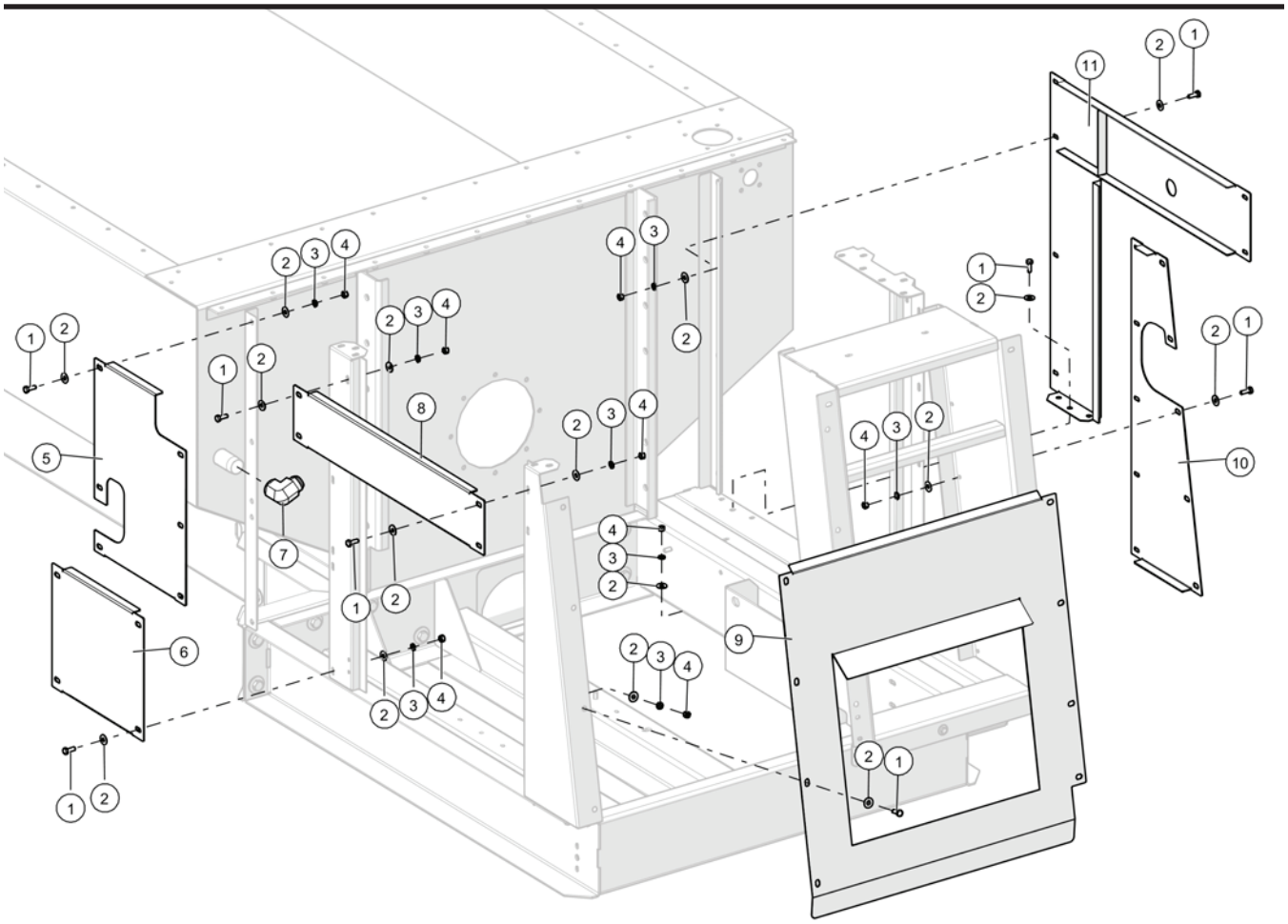
Ref. No.	Part Number	Description	No. Req'd
1	B10-1107-8	5/8-11NC x 1-3/4 in. L Hex Head Cap Screw, Grade 8	6
2	W10F	5/8 in. Flat Washer MAGNI 501	12
3	71-31-0028	Left Platform Support	1
4	W06F	3/8 in. Flat Washer	20
5	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	10
6	71-23-0007	Pillar Left Hand Front	1
7	W10L	5/8 in. Lock Washer	6
8	N10-11-8	Hex Nut	6
9	71-31-0029	Right Platform Support	1
10	W10F	5/8 in. Flat Washer MAGNI 501	10
11	N06-16H-8	3/8-16NC Hex Nut, Grade 8	10
12	71-23-0008	Pillar Left Hand Rear Weld	1
13	71-23-0005	Right Hand Pillar Pilot	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE BAY SIDE PANELS

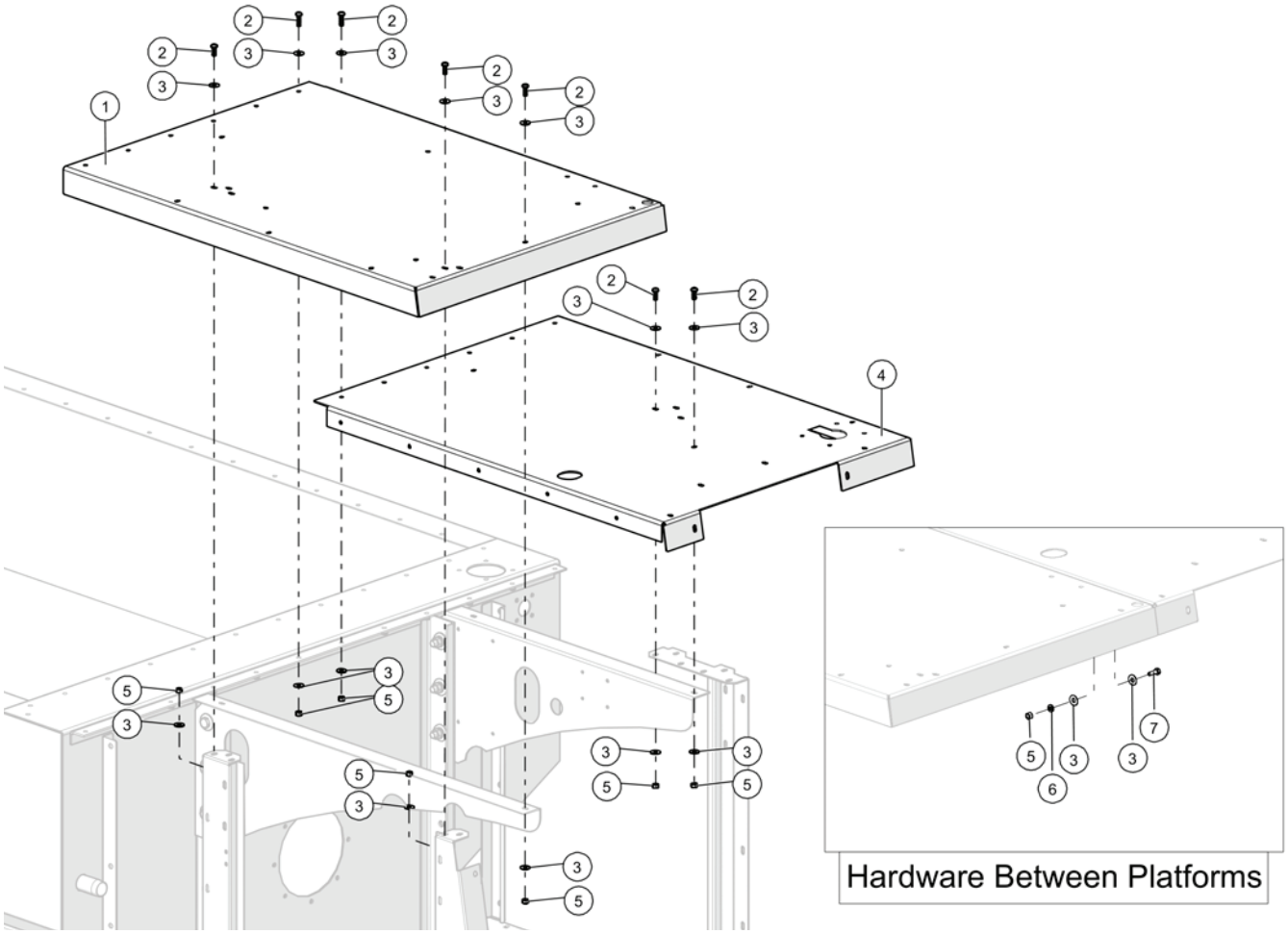
Ref. No.	Part Number	Description	No. Req'd
1	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	41
2	W06F	3/8 in. Flat Washer	82
3	W06L	3/8 in. Lock Washer MAGNI 501	41
4	N06-16H-8	3/8-16NC Hex Nut, Grade 8	41
5	71-21-0032	Panel Left Hand Front Top	1
6	71-21-0033	Panel Left Hand Front Bottom	1
7	HF3455-20-20	#20 MJIC to 1-1/4 in. FNPT, 90° Elbow	1
8	71-21-0034	Panel Left Hand Rear Top	1
9	71-21-0030	Panel Rear	1
10	71-21-0038	Panel Right Hand Rear Pilot	1
11	71-23-0006	Right Hand Valve Cover Panel Weldment	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE BAY PLATFORMS

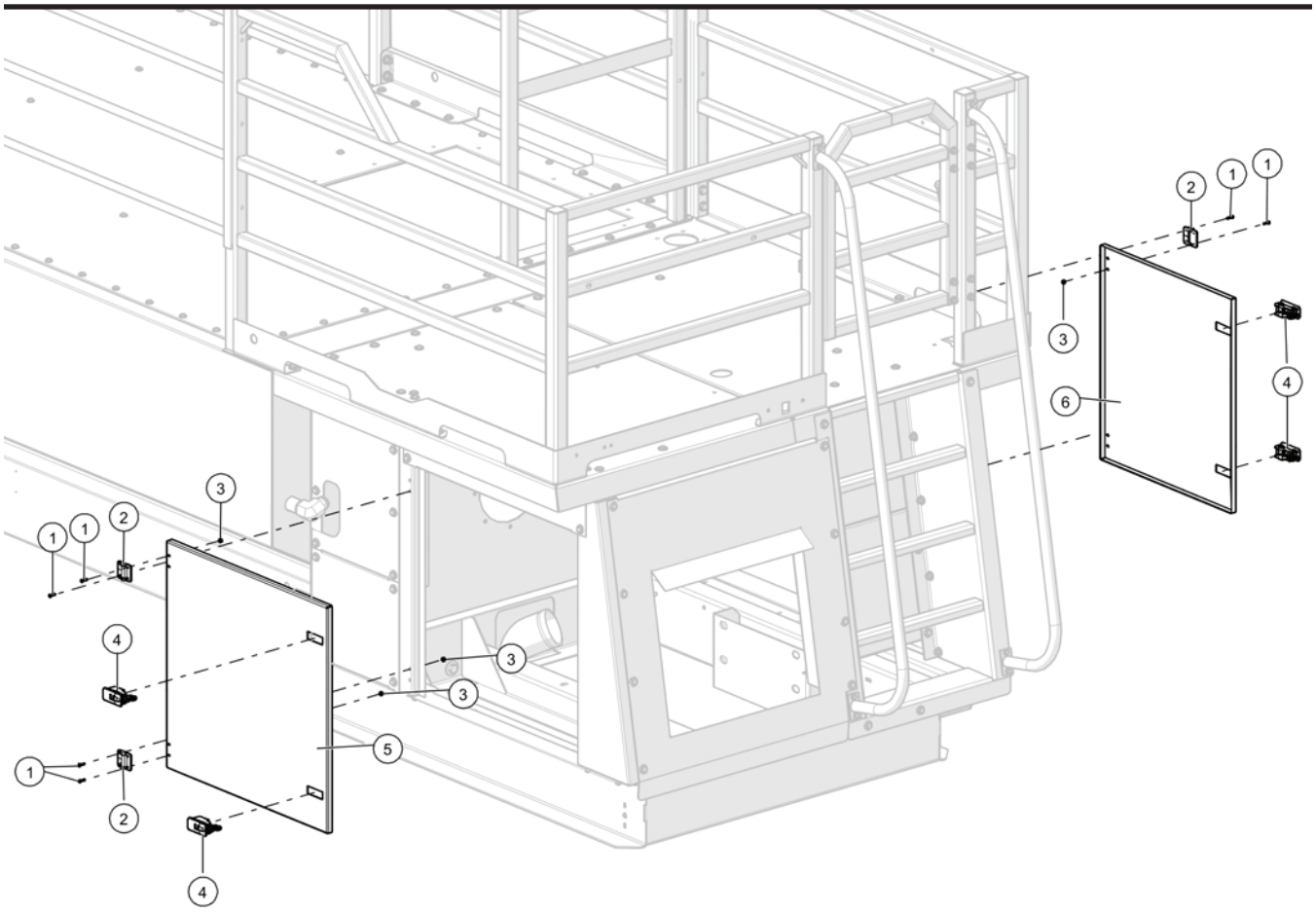
Ref. No.	Part Number	Description	No. Req'd
1	71-33-0022	Platform Left Weld	1
2	B06-1605B-SS	3/8-16 x 1-1/4 in. Button nead Socket Head Cap Screw, Stainless Steel	22
3	W06F 3/8"	Flat Washer	54
4	71-33-0020	Platform Right Weld	1
5	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	27
6	W06L	3/8 in. Lock Washer MAGNI 501	5
7	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	5



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE BAY DOORS

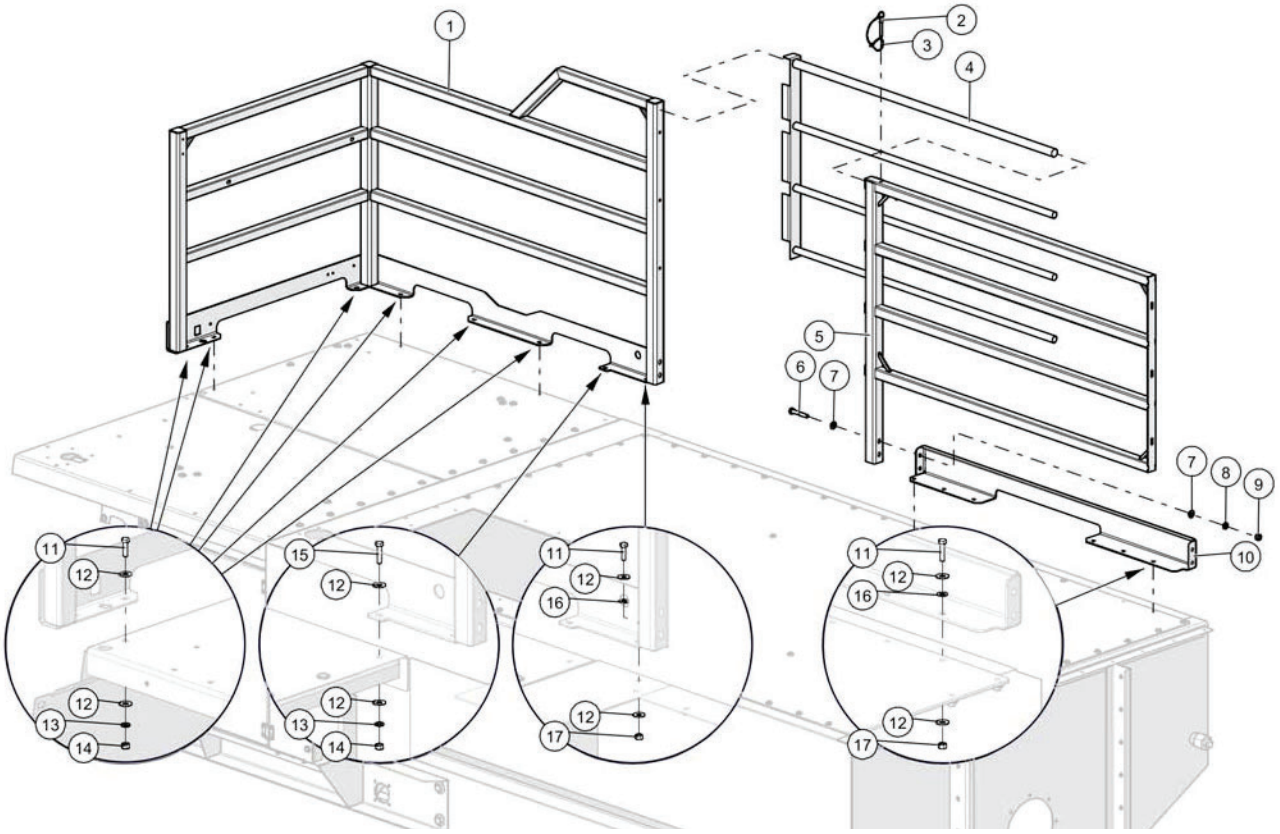
Ref. No.	Part Number	Description	No. Req'd
1	B#10-2403B	10-24NC x 3/4 in. Button Head Allen	16
2	410-35-037	Friction Hinge, 2" x 2-1/4 in., 15lb.	4
3	N#10-24L	#10-24 Nylon Lock Nut	16
4	074-35-012	Motor Cover Compression Latch, PH III	4
5	71-23-0010	Door Left Hand Weld	1
6	71-23-0009	Door Right Hand Weld	1



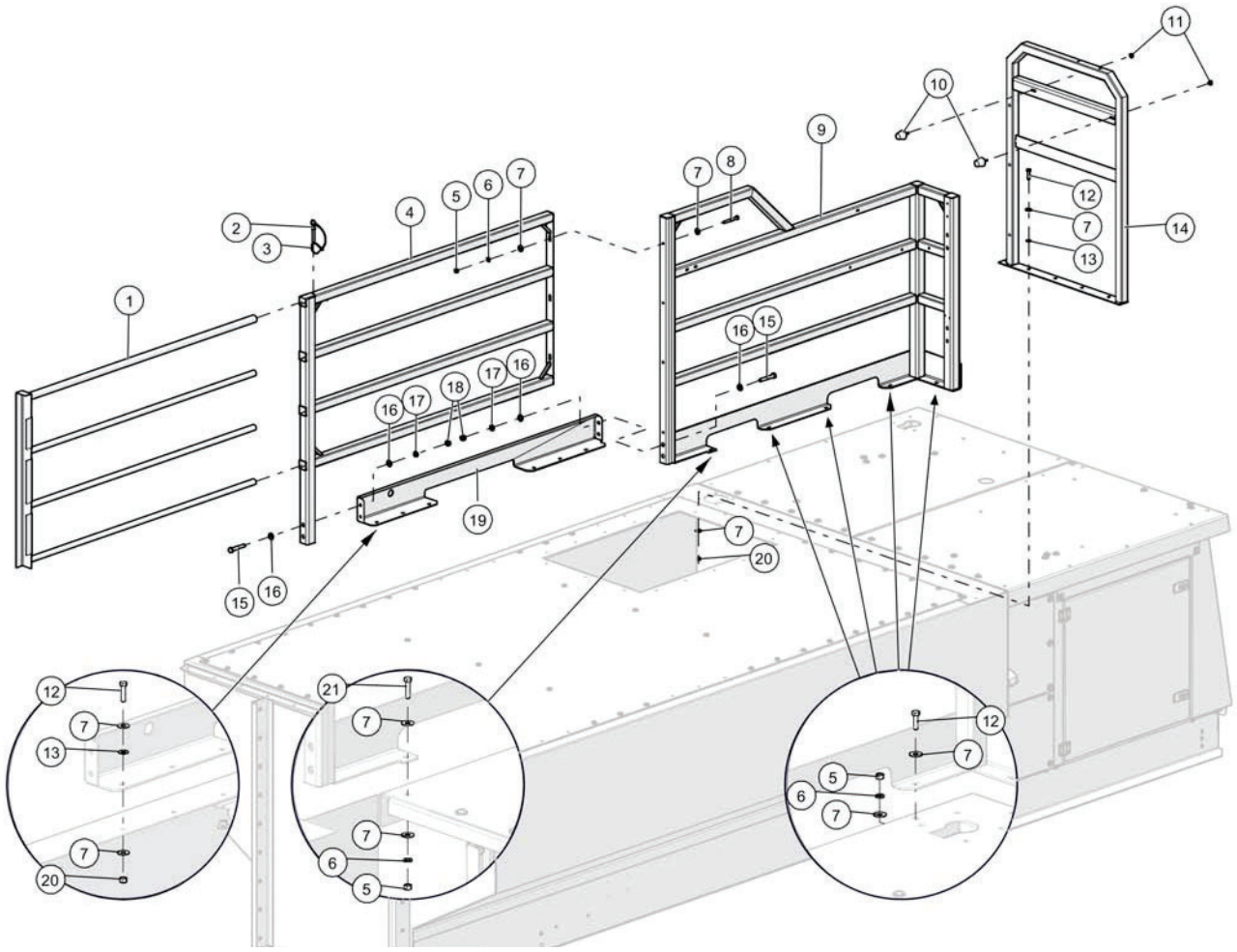
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

RAILING - DRIVER SIDE

Ref. No.	Part Number	Description	No. Req'd
1	71-33-0006	Platform Railing, Left Hand	1
2	91-35-0018	Slide Gate Lock Pin	1
3	074-35-001	Nylon-Coated Lanyard 12 In. Long	1
4	71-33-0008	Slide Gate	1
5	71-33-0007	Stationary Rail Slide	1
6	B08-1312-8	1/2-13NC x 3 in. L Hex Head Cap Screw, Grade 8	2
7	W08SF	1/2 in. SAE Flat Washer	4
8	W08L	1/2 in. Lock Washer MAG 501	2
9	N08-13-8	Hex Nut	2
10	71-33-0023	Left Hand Slide Gate Stationary Foot Guard Weld	1
11	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw, Grade 8	13
12	W06F	3/8 in. Flat Washer	28
13	W06L	3/8 in. Lock Washer MAGNI 501	7
14	N06-16H-8	3/8-16NC Hex Nut, Grade 8	7
15	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	1
16	W06S	3/8 in. Galvanized Bonded Sealing	7
17	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	7



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

RAILING - PASSENGER SIDE

Ref. No.	Part Number	Description	No. Req'd
1	71-33-0008	Slide Gate	1
2	91-35-0018	Slide Gate Lock Pin	1
3	074-35-001	Nylon-Coated Lanyard 12 In. Long	1
4	71-33-0007	Stationary Rail Slide	1
5	N06-16H-8	3/8-16NC Hex Nut, Grade 8	8
6	W06L	3/8 in. Lock Washer MAGNI 501	18
7	W06F	3/8 in. Flat Washer	32
8	B06-1612-8	3/8-16NC x 3 in. Hex Head Cap Screw, MAG 501	3
9	71-33-0005	Platform Railing, Right Hand	1
10	450-35-016	Conical Door Bumper, FTX600	2
11	N05-18SF	5/16-18 Serrated Hex Flange Nut, Zinc	2
12	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw, Grade 8	11
13	W06S	3/8 in. Galvanized Bonded Sealing	11
14	71-33-0013	Safety Rail	1
15	B08-1312-8	1/2-13NC x 3 in. L Hex Head Cap Screw, Grade 8	4
16	W08SF	1/2 in. SAE Flat Washer	8
17	W08L	1/2 in. Lock Washer MAG 501	4
18	N08-13-8	Hex Nut	4
19	71-33-0024	Right Hand Slide Gate Stationary Foot Guard Weld	1
20	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	11
21	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	1

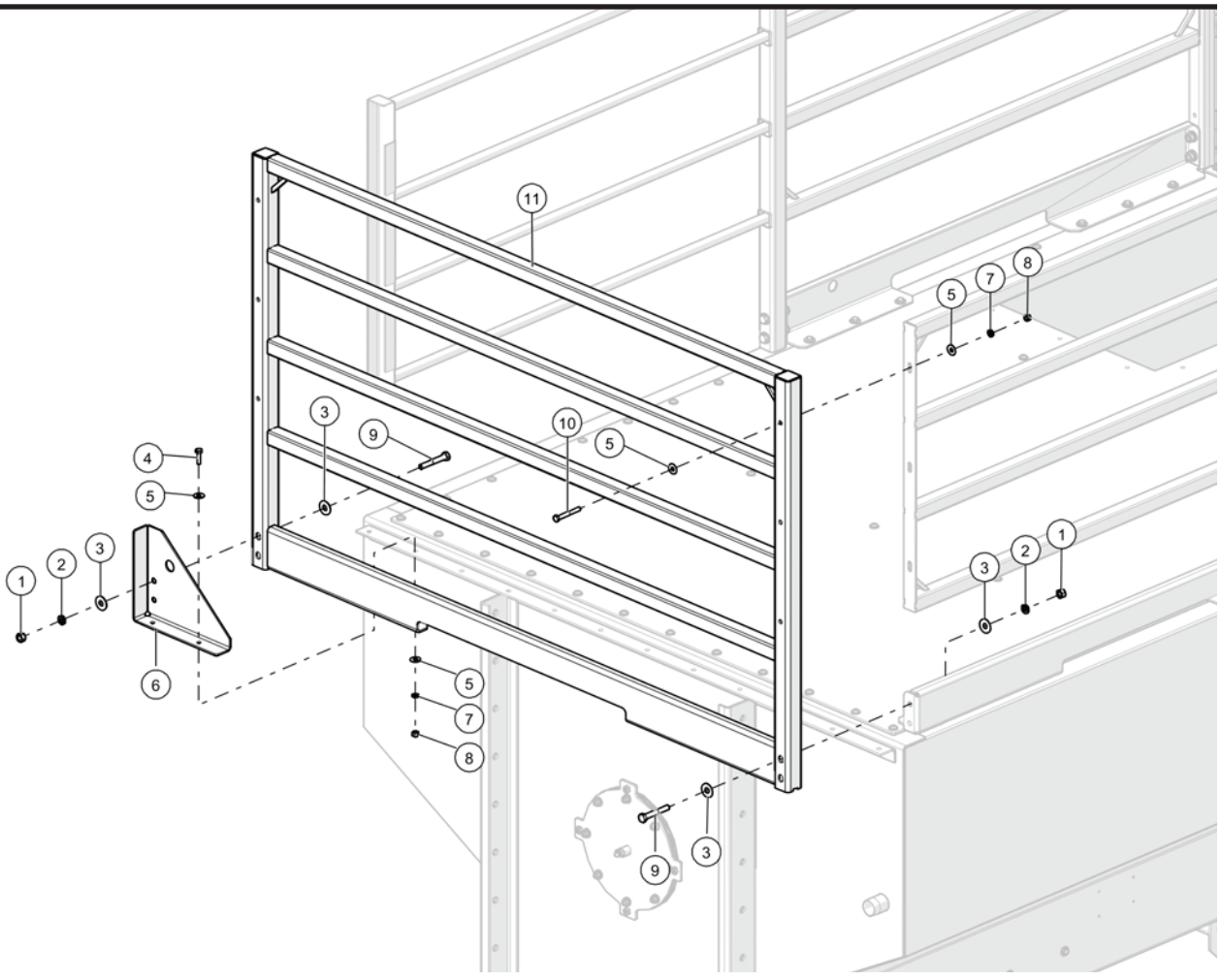
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

RAILING - FRONT

Ref. No.	Part Number	Description	No. Req'd
1	N08-13-8	Hex Nut	4
2	W08L	1/2 in. Lock Washer MAG 501	4
3	W08F	1/2 in. Flat Washer	8
4	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw	2
5	W06F	3/8 in. Flat Washer	10
6	71-33-0027	Brace Front Rail Weld	1
7	W06L	3/8 in. Lock Washer MAGNI 501	5
8	N06-16H-8	3/8-16NC Hex Nut, Grade 8	5
9	B08-1313-8	1/2-13NC x 3-1/4 in. Hex Head Cap Screw, Grade 8	4
10	B06-1612-8	3/8-16NC x 3 in. Hex Head Cap Screw, Grade 8 MAG 501	3
11	71-33-0011	Front Railing Weldment	1

NOTES

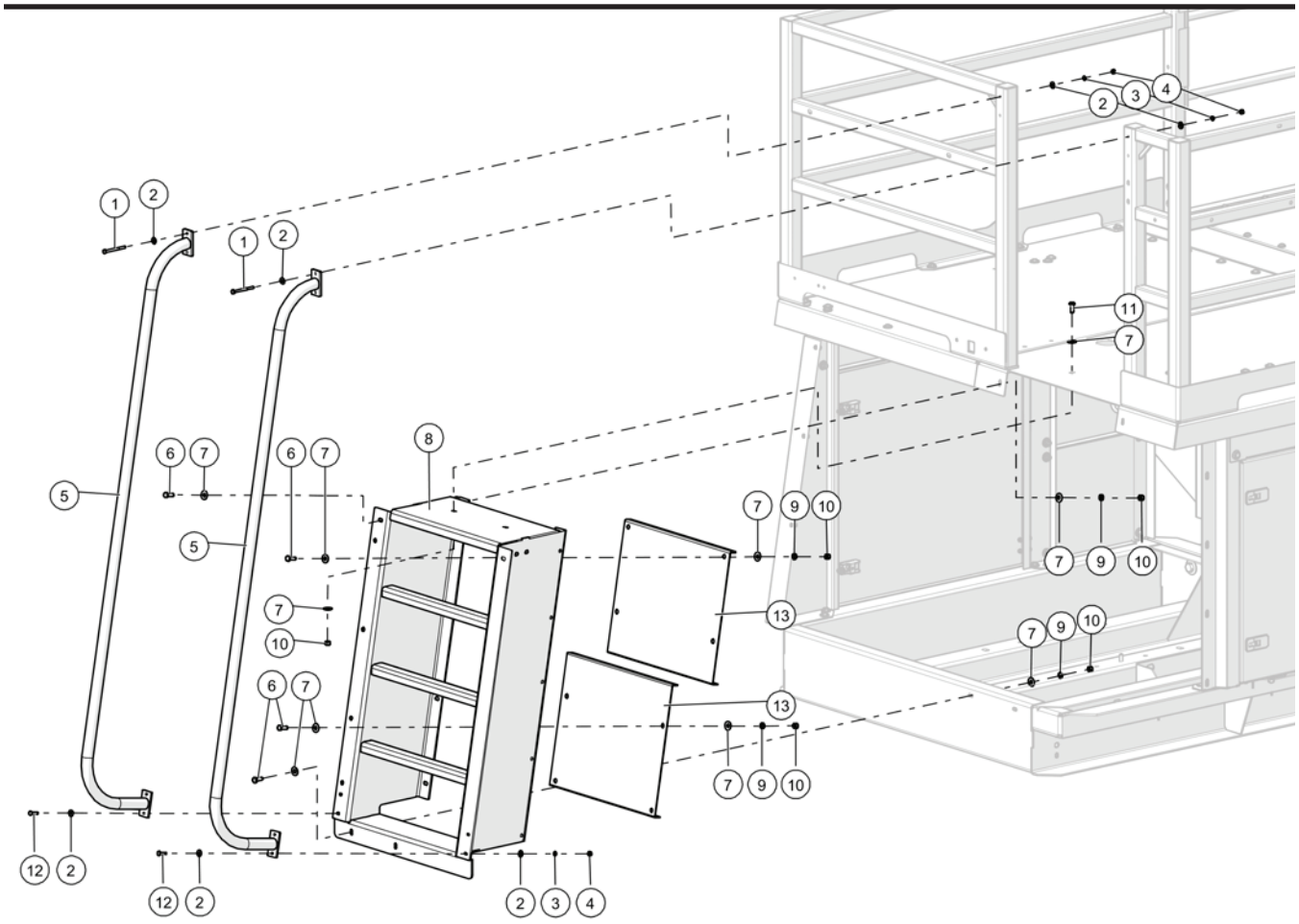
Skid and Trailer Units ONLY.



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

LADDER ACCESS

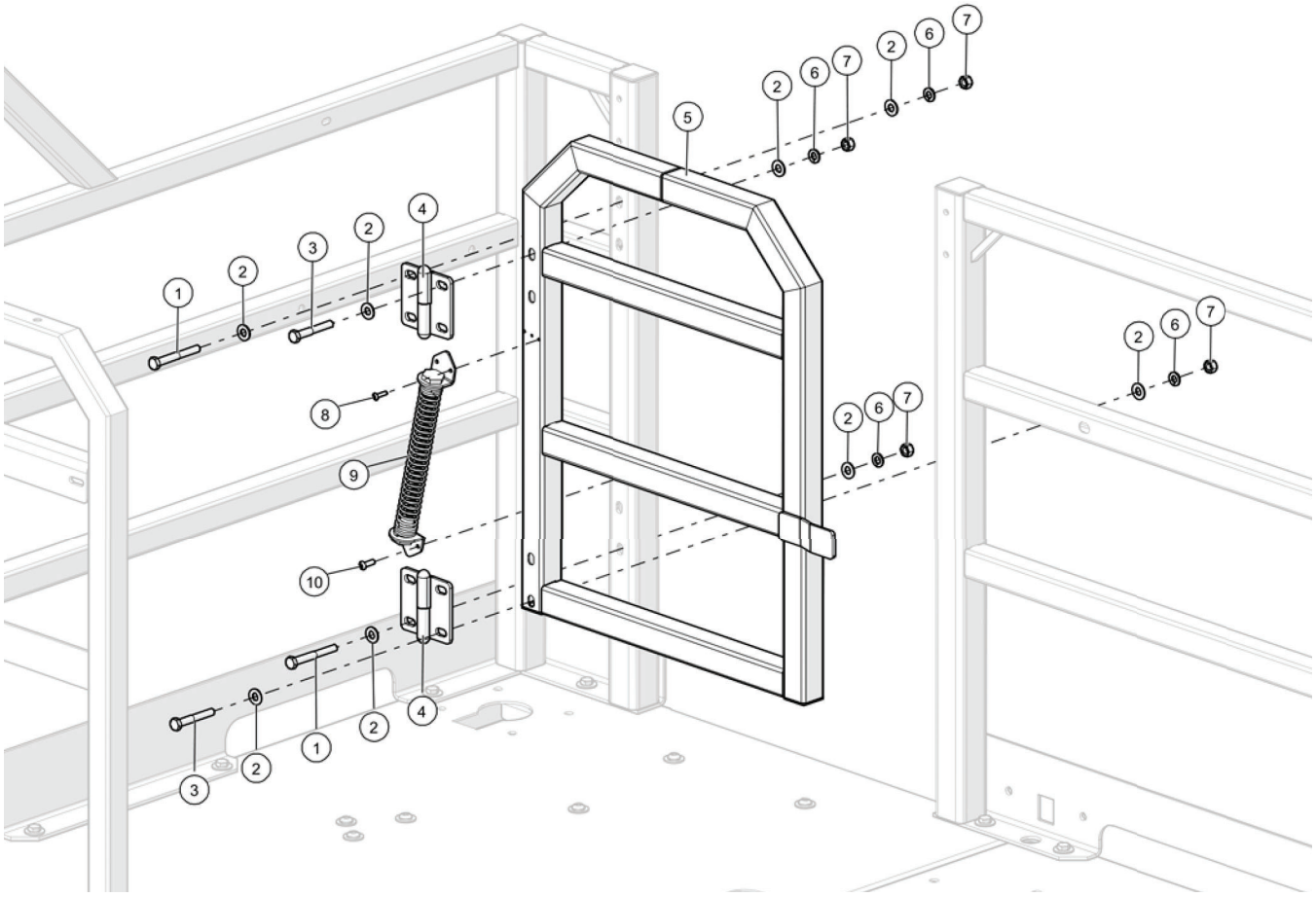
Ref. No.	Part Number	Description	No. Req'd
1	B04-2012-8	1/4-20 NC x 3 in. Hex Head Cap Screw, Grade 8	4
2	W04F	1/4 in. Flat Washer	16
3	W04L	1/4 in. Lock Washer	8
4	N04-20-8	1/4-20 Nut	8
5	71-23-0003	Ladder Railing Weldment	2
6	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	12
7	W06F	3/8 in. Flat Washer	28
8	71-23-0002	Ladder Weldment	1
9	W06L	3/8 in. Lock Washer MAGNI 501	12
10	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	14
11	B06-1604B-8	3/8-16NC x 1 in. Button Head Allen, Grade 8	2
12	B04-2004-8	1/4-20 NC x 1 in. Long, Grade 8	4
13	71-21-0031	Panel Ladder	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

LADDER ACCESS GATE

Ref. No.	Part Number	Description	No. Req'd
1	B06-1612-8	3/8-16NC x 3 in. Hex Head Cap Screw MAG 501	4
2	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	16
3	B06-1610-8	3/8-16 x 2-1/2 in. Hex Head Cap Screw, Grade 8 Zinc	4
4	91-35-0028	Hinge Weld, GEN 3	2
5	91-33-0094	Gate Rear, GEN 3	1
6	W06L	3/8 in. Lock Washer MAGNI 501	8
7	N06-16H-8	3/8-16NC Hex Nut, Grade 8	8
8	B#10-2403B	10-24NC x 3/4 in. Button Head Allen	2
9	91-35-0009	Gate Spring	1
10	B04-2003B-8	1/4-20 NC x 3/4 in. Button Head Socket Head Cap Screw	2



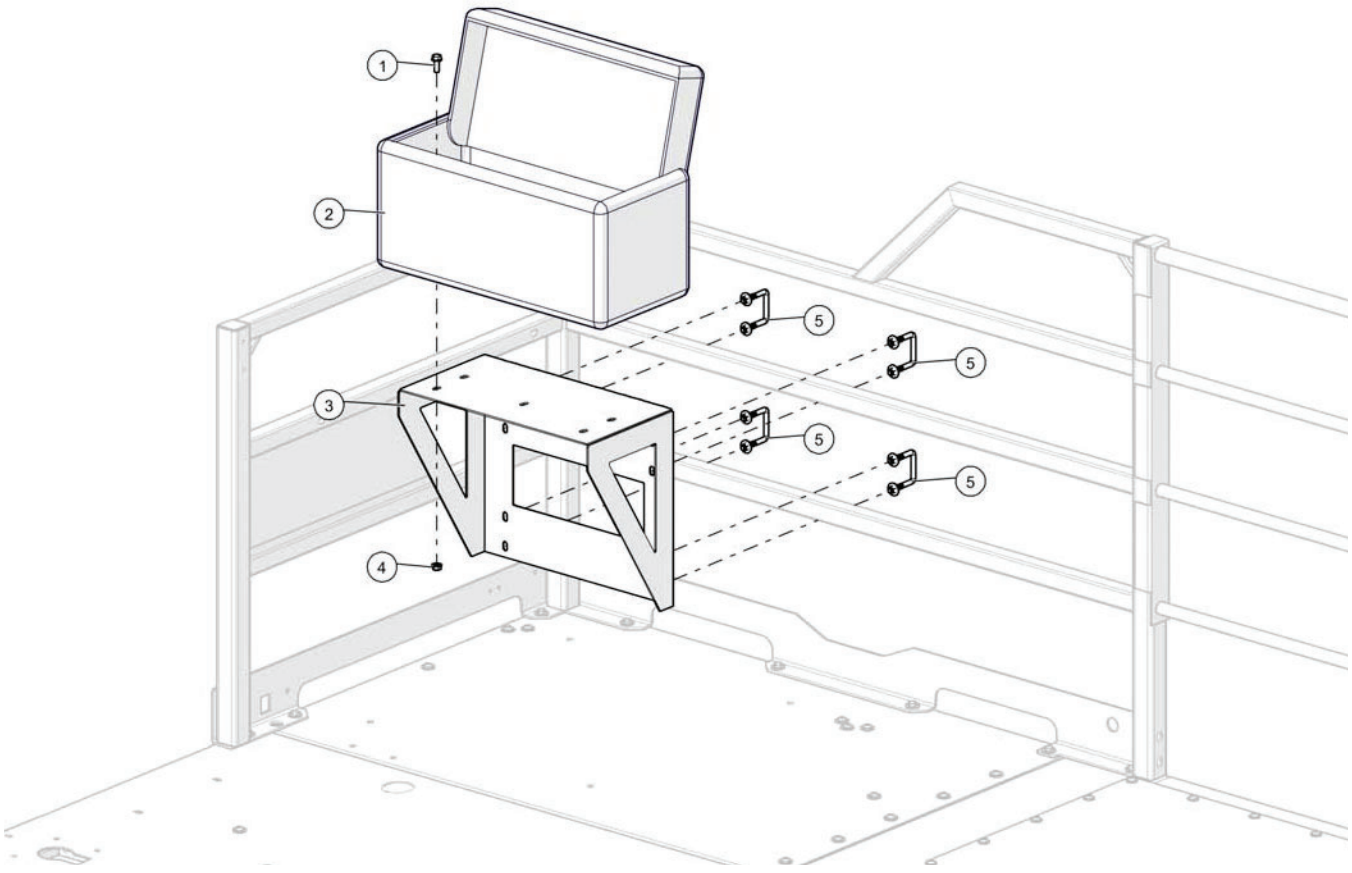
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TOOL BOX

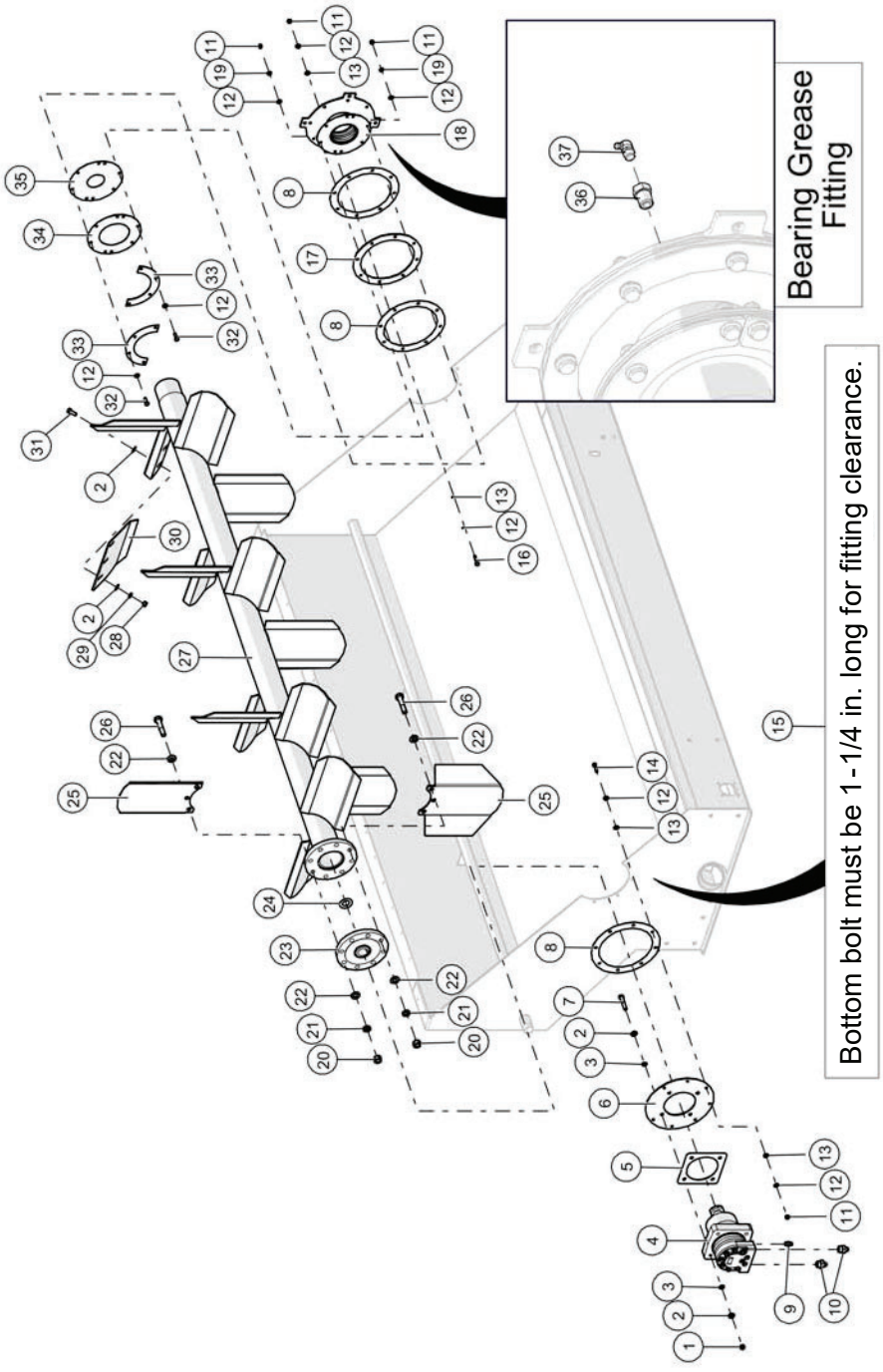
Ref. No.	Part Number	Description	No. Req'd
1	B06-1604SF-8	3/8-16NC x 1 in. Long Serrated Flange, Grade 8	5
2	052160	Tool Box	1
3	71-03-0017	Tool Box Mounting Attachment Weld	1
4	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	5
5	91-75-0005	Square U-Bolt 3/8-16 x 2 SD x 2 5/8 in. Long	4

NOTES

Skid and Gooseneck Units ONLY.



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

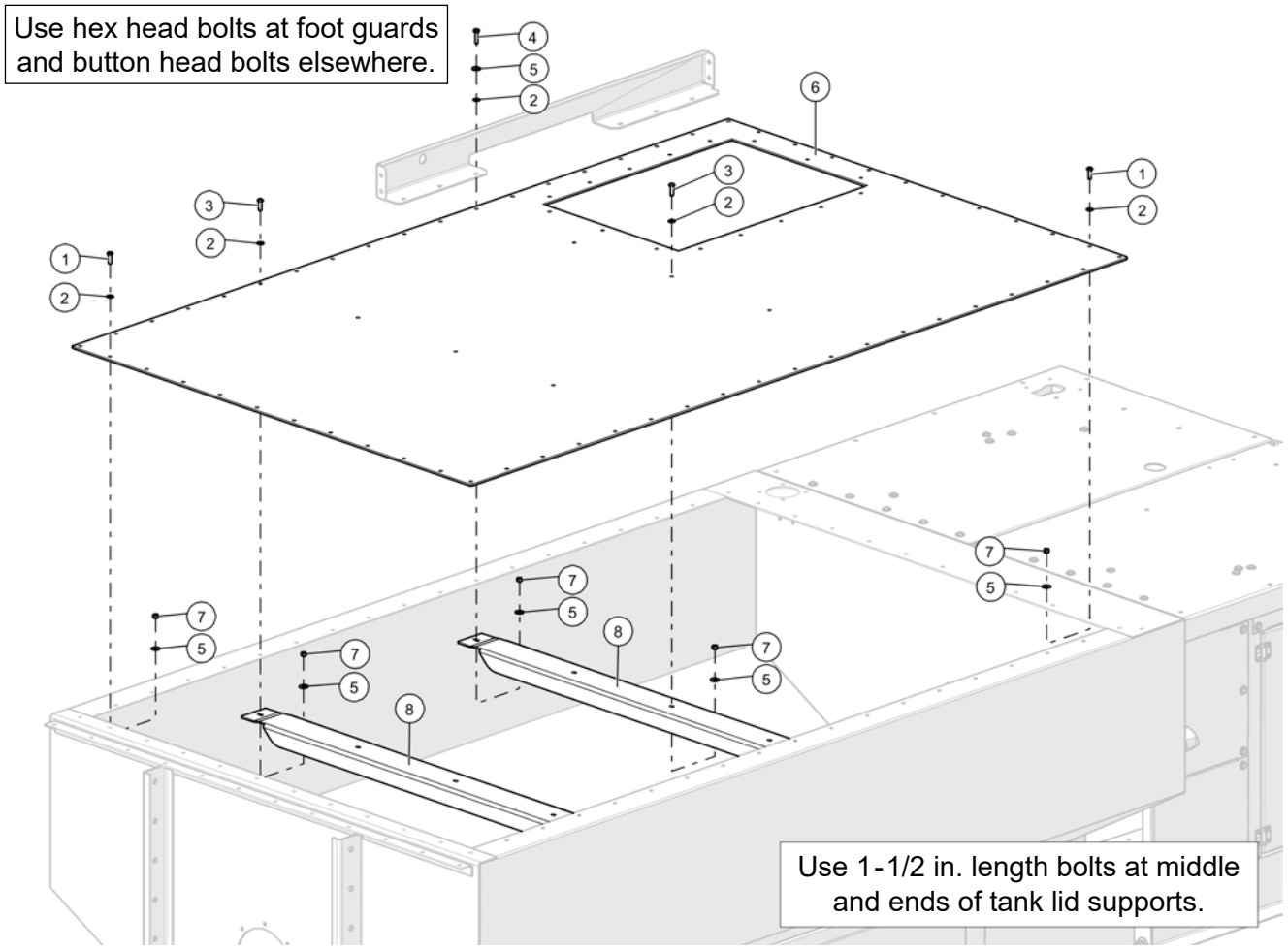
AGITATOR

Ref. No.	Part Number	Description	No. Req'd
1	N08-13L-8	1/2-13NC Locknut, Grade 8	4
2	W08SF	1/2 in. SAE Flat Washer	13
3	71-45-0037	1/2 in. Sealing Washer, Zinc 0.490 ID	8
4	71-65-0010	Agitator Hydraulic Motor	1
5	71-15-0007	Hydraulic Motor Gasket	1
6	71-11-0009	Cover Plate Rear	1
7	B08-1311-8	1/2-13NC x 2-3/4 in. Hex Head Cap Screw, Grade 8	4
8	71-15-0006	Tank Head Gasket	3
9	HFA3105-6	#6 MJIC to #6 SAE ORB Strait	1
10	HFA3105-8-12	#8 MJIC to #12 MSAE ORB Adapter	2
11	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	24
12	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	48
13	W06S	3/8 in. Galvanized Bonded Sealing	32
14	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	7
15	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw	1
16	B06-1607-8	3/8-16 x 1-3/4 Hex Cap, Grade 8 Zinc	8
17	71-11-0060	Agitator Plate Spacer	1
18	71-14-0003	Front Bearing Retainer MACH	1
19	W06L	3/8 in. Lock Washer MAGNI 501	8
20	N12-10-8	3/4-10NC Hex Nut, Grade 8	6
21	W12L	3/4 in. Lock Washer	6
22	W12SF	3/4 in. SAE Flat Washer, Grade 8 Zinc	12
23	71-14-0002	Agitator Drive Flange	1
24	71-15-0012	Machinery Shim, 1-1/4 in. ID	1
25	71-11-0047	Agitator Bolt On Blade Rear, CCW	2
26	B12-1014-8	3/4-10NC x 3-1/2 in. Long Hex Head Cap Screw, Grade 8	6
27	71-14-0005	Agitator Pipe MACH, CCW	1
28	N08-13-8	Hex Nut	3
29	W08L	1/2 in. Lock Washer MAG 501	3
30	71-11-0046	Agitator Bolt On Blade Front, CCW	1
31	B08-1305-8	1/2-13NC x 1-1/4 in. Hex Head Cap Screw, Grade 8	3
32	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw	8
33	71-11-0021	Plate Agitator Bearing Seal	2
34	71-15-0001	Retainer Agitator Bearing Seal	1
35	71-15-0002	Seal Agitator Bearing	1
36	HF4-2HB	1/4 to 1/8 NPT Hex Bushing	1
37	007705	Grease Fitting, 1/8 PT	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SLURRY TANK LID

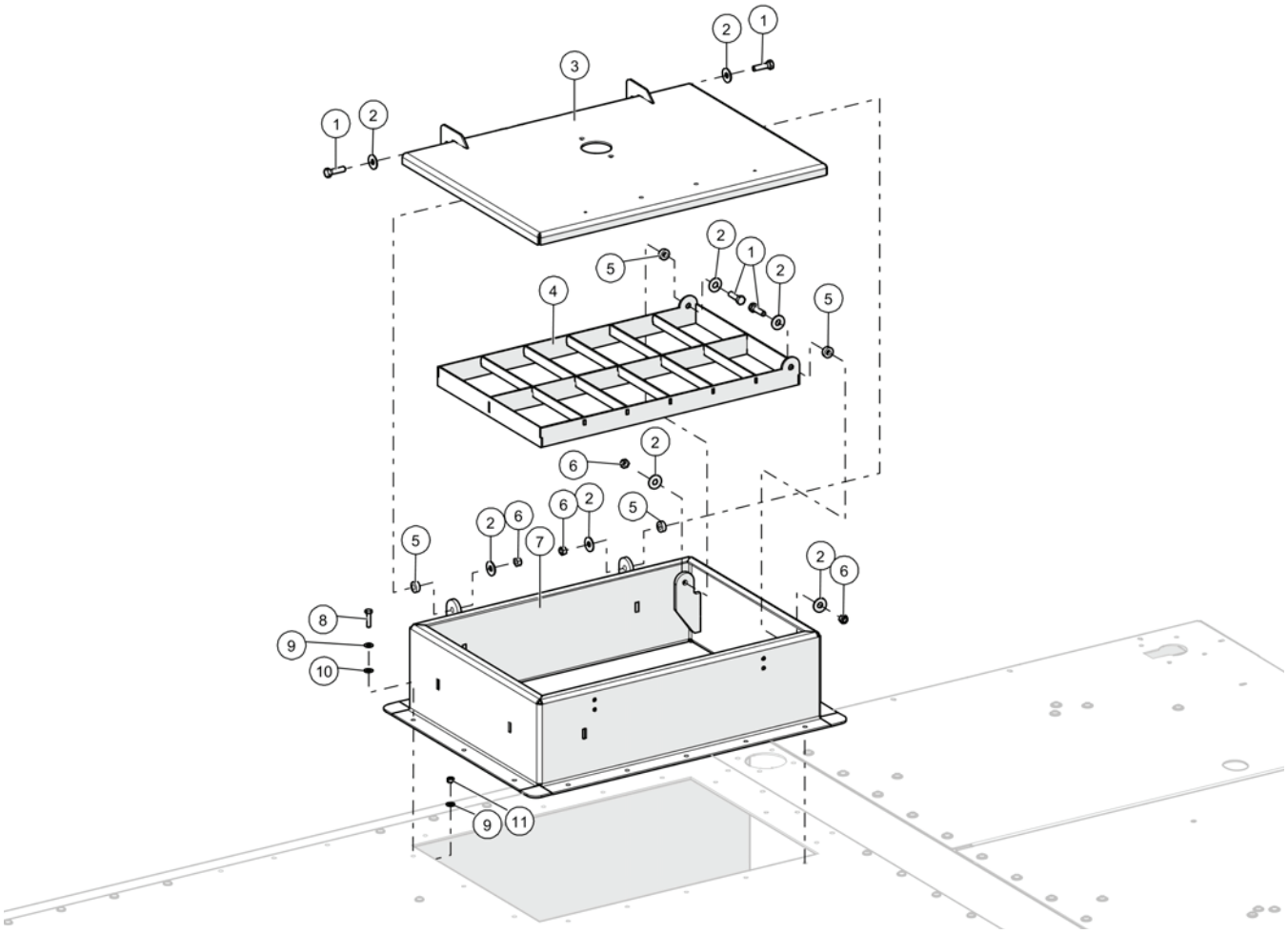
Ref. No.	Part Number	Description	No. Req'd
1	B06-1605B-8	3/8-16UNC x 1-1/4 in. Button Head Allen, Grade 8	42
2	W06S	3/8 in. Galvanized Bonded Sealing	64
3	B06-1606B-8	3/8-16 x 1-1/2 in. Button Head Allen, Grade 8	5
4	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	17
5	W06F	3/8 in. Flat Washer	17
6	71-10-0002	Tank Cover (Coated)	1
7	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	64
8	71-11-0036	Tank Top Support	2
NOT SHOWN			
	190047	Foam Gasket (29.3 ft.)	



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SLURRY TANK HATCH ATTACHMENT

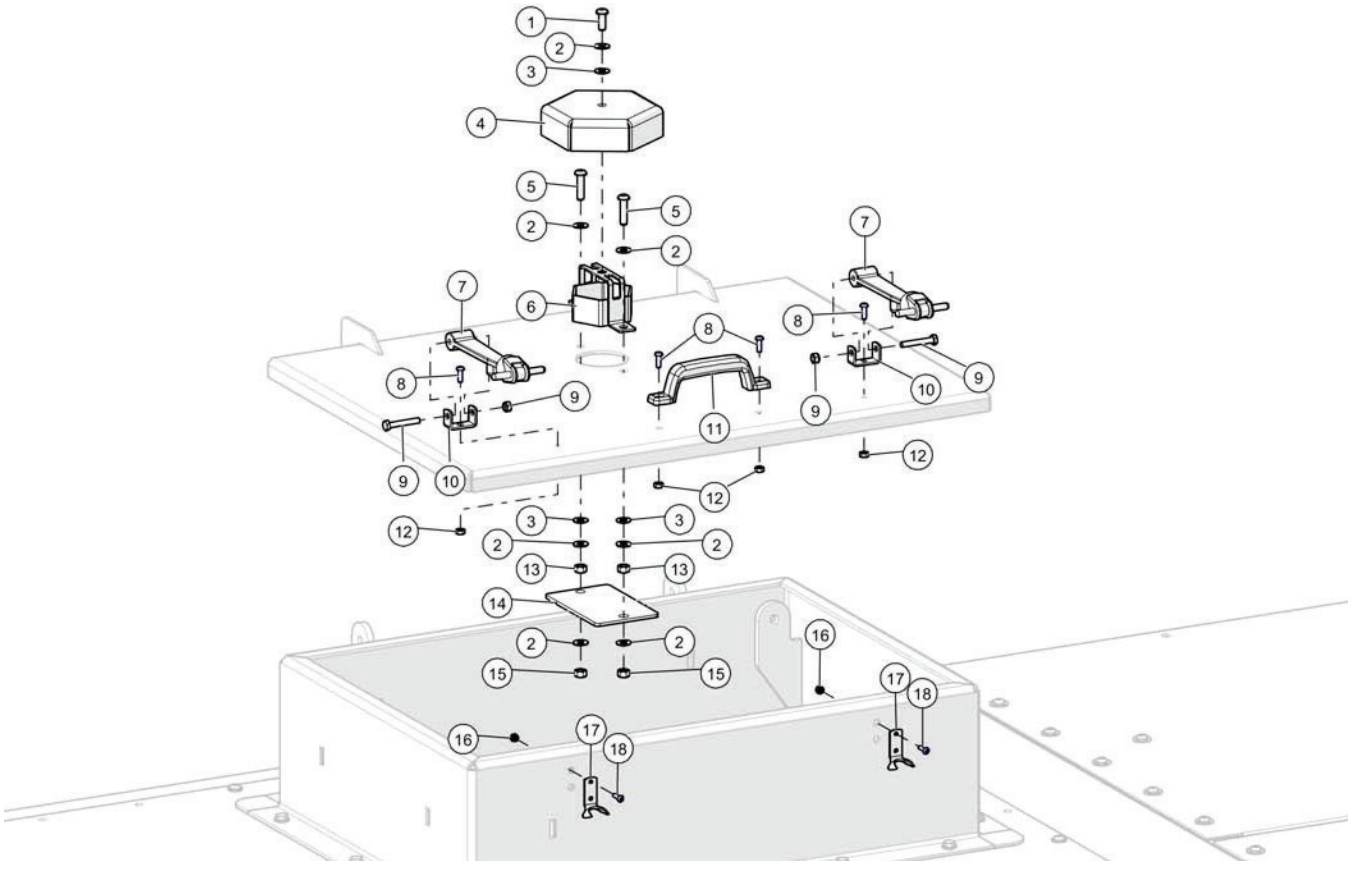
Ref. No.	Part Number	Description	No. Req'd
1	B08-1307-8	1/2-13NC x 1-3/4 in. Hex Head Cap Screw, Grade 8	4
2	W08F	1/2 in. Flat Washer	8
3	71-33-0016	Lid Weldment Wide	1
4	71-33-0017	Tank Hatch Safety Grating Wide	1
5	91-32-0054	Spacer, UHMW 1/2 in. ID x 1 in. OD, 1/4 in. Long	4
6	N08-13L-8	1/2-13NC Locknut, Grade 8	4
7	71-33-0015	Hatch Base Weldment Wide	1
8	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	16
9	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	32
10	W06S	3/8 in. Galvanized Bonded Sealing	16
11	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	16
NOT SHOWN			
	91-35-0015	Neoprene Strip 60A 1/6 x 2 in. (9 ft.)	
	190047	Foam Gasket (10.0 ft.)	



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SLURRY TANK HATCH LATCHES, HANDLE AND VENT

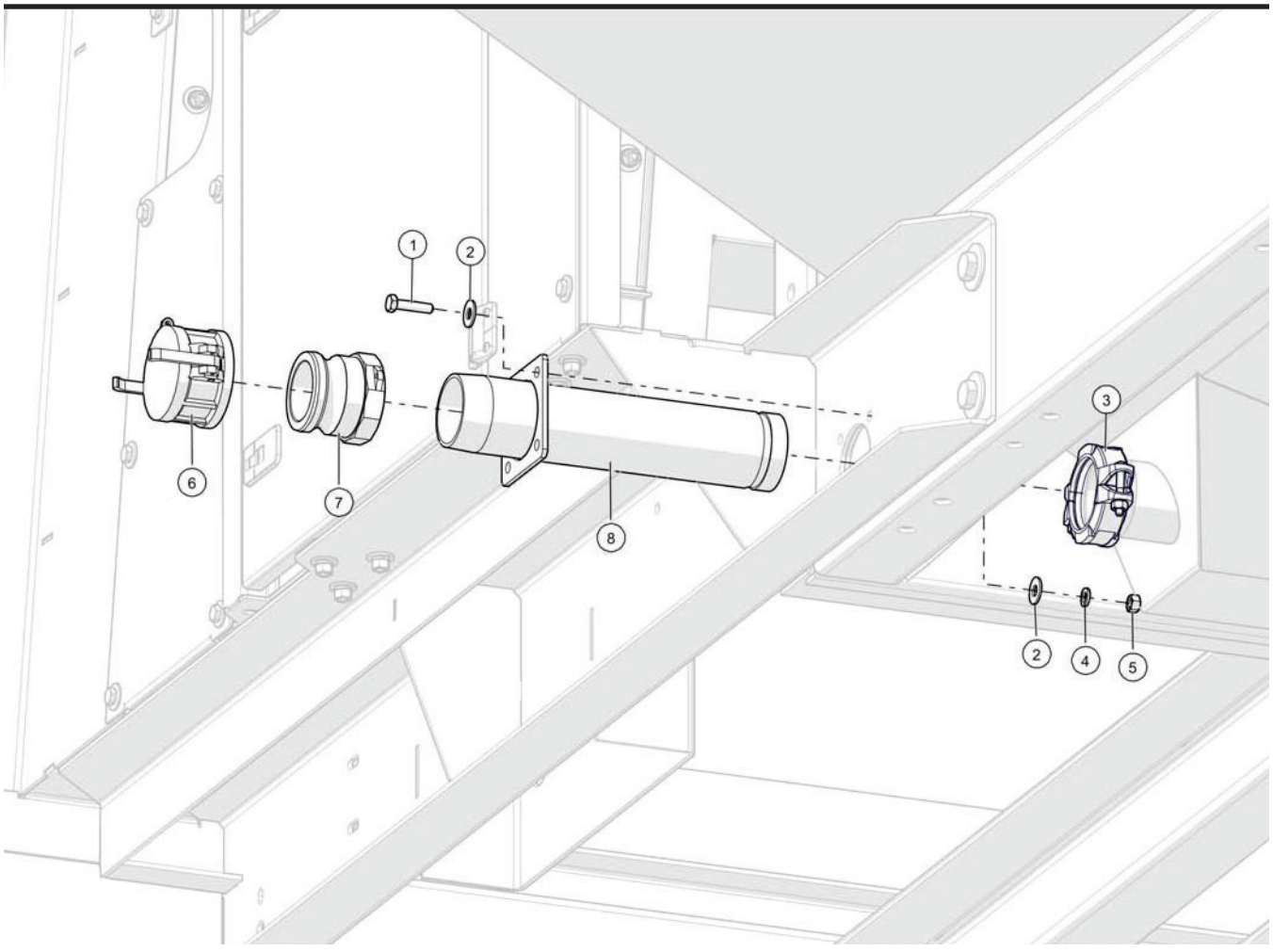
Ref. No.	Part Number	Description	No. Req'd
1	B06-1604B-8	3/8-16NC x 1 in. Button Head Allen, Grade 8	1
2	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	7
3	W06S	3/8 in. Galvanized Bonded Sealing	3
4	91-33-0108	Cover Hatch Vent Weld	1
5	B06-1606B-8	3/8-16 x 1-1/2 in. Button Head Allen, Grade 8	2
6	91-33-0027	Vent Hatch	1
7	91-35-0010	Draw Latch	2
8	B04-2003B-8	1/4-20 NC x 3/4 in. Button Head Socket Head Cap Screw	4
9	91-35-0012	Draw Latch Pin	2
10	91-35-0011	Draw Latch Anchor	2
11	91-35-0021	Pull Handle, Hatch	1
12	N04-20-8	1/4-20 Nut	4
13	N06-16H-8	3/8-16NC Hex Nut, Grade 8	2
14	71-31-0026	Vent Baffle	1
15	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	2
16	N#10-24L-2	Nylon-Insert Hex Locknut	2
17	91-35-0013	Draw Latch Catch	2
18	B#10-2403B-SS	10-24NC x 3/4 in. Button Head Allen, Stainless Steel	4



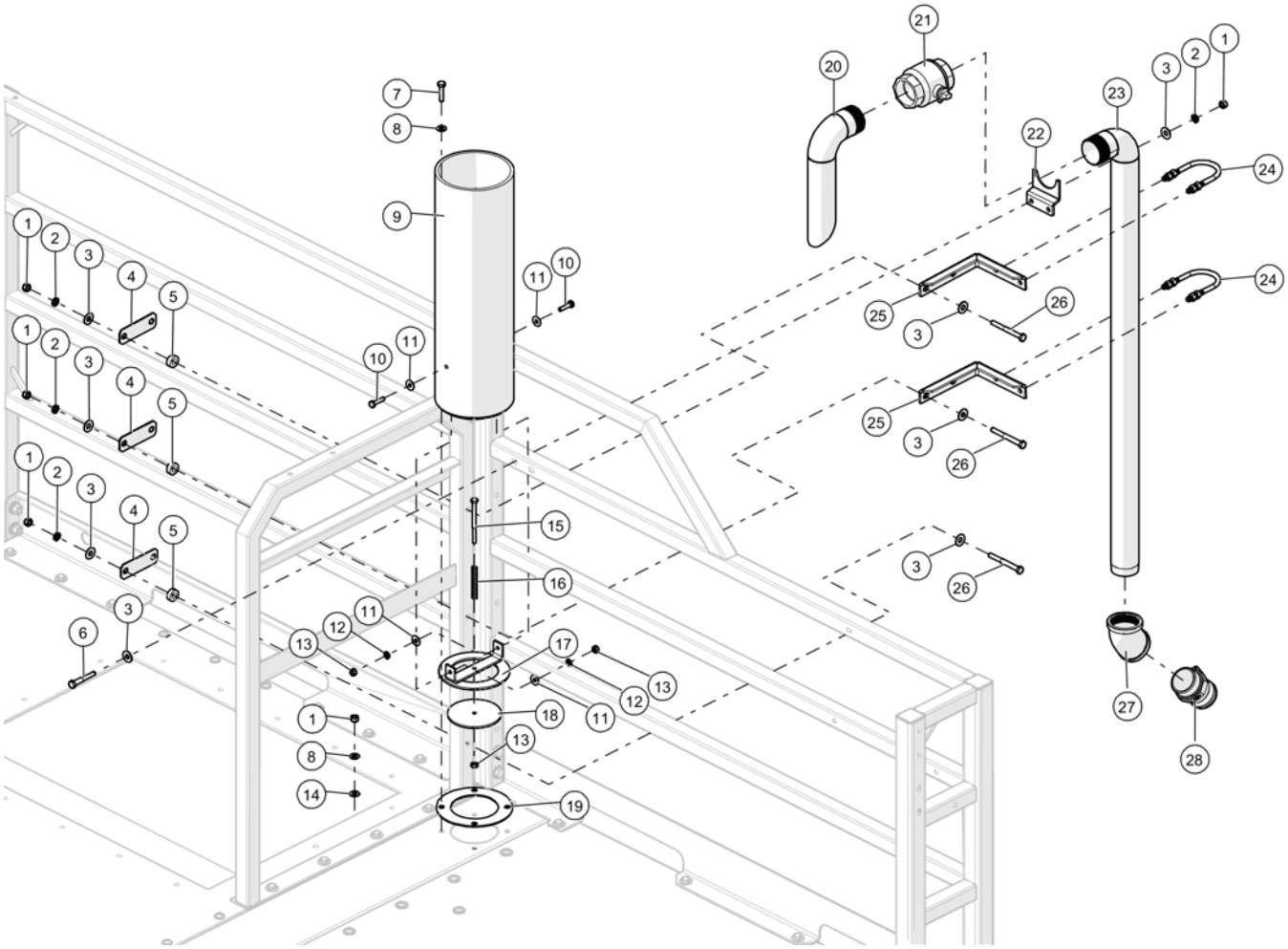
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

DRAIN PIPE

Ref. No.	Part Number	Description	No. Req'd
1	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	4
2	W06F	3/8 in. Flat Washer	8
3	71-45-0015	2-1/2 in. GRUVLOK #7000 with "E" Gasket	1
4	W06L	3/8 in. Lock Washer MAGNI 501	4
5	N06-16H-8	3/8-16NC Hex Nut, Grade 8	4
6	71-45-0031	2-1/2 in. Aluminum Camlock Dust Cap	1
7	91-45-0039	Camlock 2-1/2 in. Male x Female Pipe	1
8	71-13-0013	Sump Drain Pipe Weld	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TANK FILL

Ref. No.	Part Number	Description	No. Req'd
1	N06-16H-8	3/8-16NC Hex Nut, Grade 8	12
2	W06L	3/8 in. Lock Washer MAGNI 501	8
3	W06F	3/8 in. Flat Washer	16
4	71-31-0020	Safety Rail Support Tab	3
5	91-32-0054	Spacer, UHMW 1/2 in. ID x 1 in. OD, 1/4 in. Long	3
6	B06-1610-8	3/8-16 X 2-1/2 Hex Head Cap Screw, Grade 8 Zinc	2
7	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	4
8	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	8
9	71-43-0004	Fill Port Base Weldment	1
10	B05-1805-8	5/16-18NC x 1-1/4 Hex Head Cap Screw, Grade 8	2
11	W05F	5/16 in. Flat Washer	4
12	W05L	5/16 in. Lock Washer	2
13	N05-18-8	5/16-18NC Hex Nut, Grade 8	3
14	W06S	3/8 in. Galvanized Bonded Sealing	4
15	B05-1816-8	5/16-18NC x 4 Hex Head Cap Screw, Grade 8	1
16	71-45-0021	0.438 in. OD x 3 in. Long Compression Spring, Stainless Steel	1
17	71-43-0005	Fill Port Ring Weld	1
18	71-41-0009	Fill Port Disk	1
19	71-45-0022	Fill Port Gasket	1
20	71-43-0003	Feed Pipe Weldment S	1
21	012287	Ball Valve, 2 in. Brass	1
22	71-41-0011	Feed Pipe Support	1
23	71-43-0006	Feed Pipe Weldment L	1
24	71-45-0023	2 in. Pipe U-Bolt	2
25	71-43-0022	Feed Pipe Support L, Weld	2
26	B06-1614-8	3/8-16 x 3-1/2 Hex Head Cap, Grade 8	6
27	160042	Elbow 2 in., 45° 150# Black MI	1
28	71-45-0033	Feed Pipe Adapter	1

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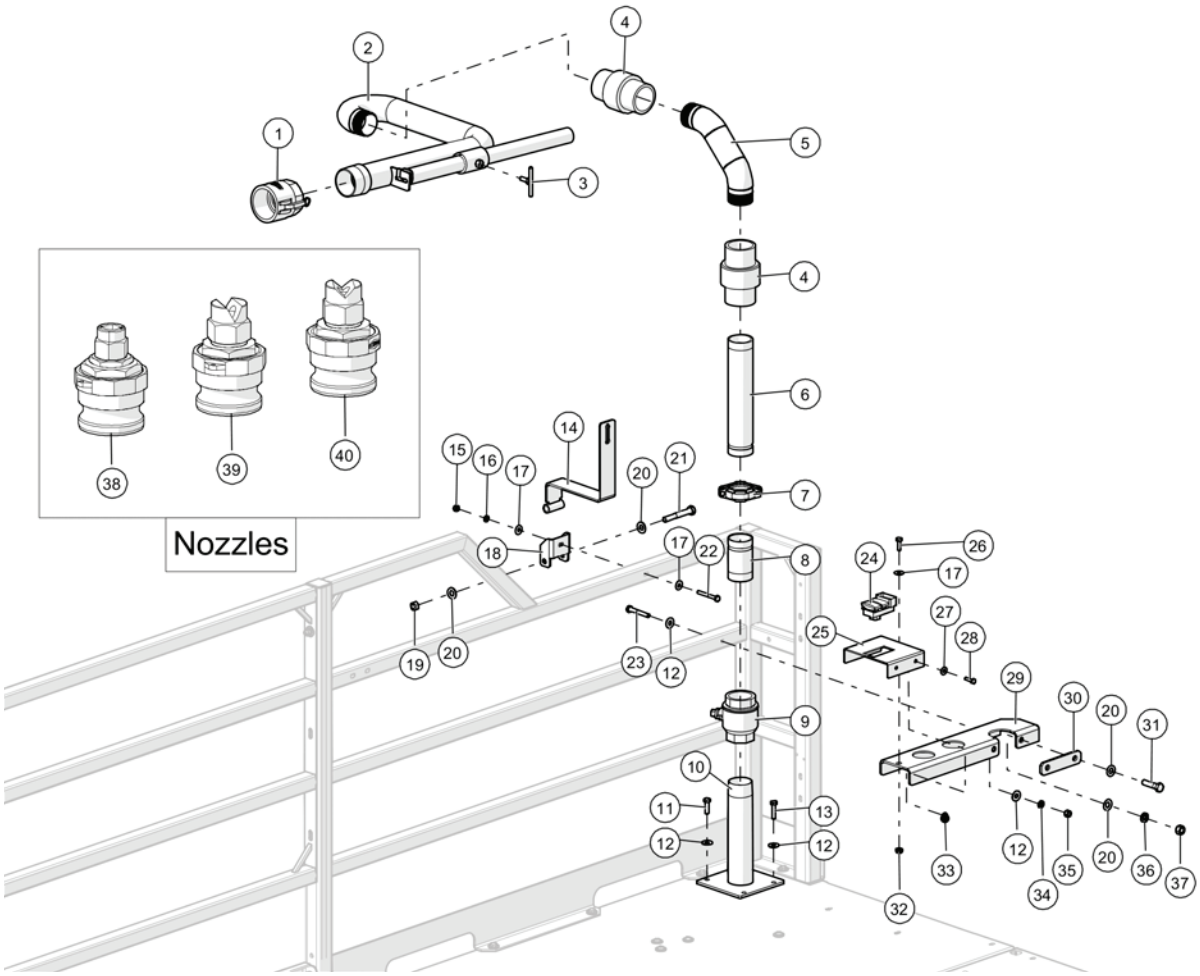

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BOOM

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	91-45-0041	Camlock 2-1/2 in. Female x Female Pipe	1
2	▲	71-43-0014	Upper Boom Weldment	1
3	▲	91-43-0014	Hand Set Screw	1
4	▲●	71-45-0018	2 in. Boom Swivel	2
5	▲	71-43-0011	Lower Boom Weldment	1
6	▲	71-42-0031	Lower Boom Pipe +4	1
7		91-45-0023	Victaulic Clamp 2 in. with Gasket (GRUVLOK)	1
8		71-42-0027	Lower Boom Pipe S	1
9		012287	Ball Valve 2 in. Brass	1
10		71-43-0012	Discharge Weldment	1
11		B06-1605-8	3/8-16NC x 1 1/4 in. Hex Head Cap Screw	2
12		W06F	3/8 in. Flat Washer	10
13		B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	2
14		71-33-0029	Boom Hold Down +4	1
15		N05-18-8	5/16-18NC Hex Nut, Grade 8	1
16		W05L	5/16 in. Lock Washer	1
17		W05F	5/16 in. Flat Washer	3
18		71-31-0031	Boom Tie-in Rail Mount	1
19		N08-13L-8	1/2-13NC Locknut, Grade 8	1
20		W08SF	1/2 in. SAE Flat Washer	6
21		B08-1314-8	1/2-13NC x 3-1/2 Hex Head Cap Screw, Grade 8	1
22		B05-1810-8	5/16-18 x 2-1/2 Hex Head Cap Screw, Grade 8 Zinc	1
23		B06-1610-8	3/8-16 x 2-1/2 Hex Head Cap Screw, Grade 8 Zinc	3
24		71-75-0002	Switch Panel-Can	1
25		71-77-0013	Temp Switch Mount Part A	1
		71-77-0014	Temp Switch Mount Part B	1
26		B05-1804-8	5/16-18NC x 1 Hex Head Cap Screw, Grade 8	1
27		W04F	1/4 in. Flat Washer	1
28		B04-2004-8	1/4-20 NC X 1 in.Long, Grade 8	1
29		71-33-0021	Boom Holder Weld	1
30		71-31-0025	Boom Holder Strap	1
31		B08-1308-8	1/2-13NC x 2 in. Hex Head Cap Screw, Grade 8	2
32		N05-18SF	5/16-18 Serrated Hex Flange Nut, Zinc	1
33		N04-20SF-8	1/4-20 Serrated Flange Hex, Grade 8 Zinc	1
34		W06L	3/8 in. Lockwasher MAGNI 501	3
35		N06-16H-8	3/8-16NC Hex Nut, Grade 8	1

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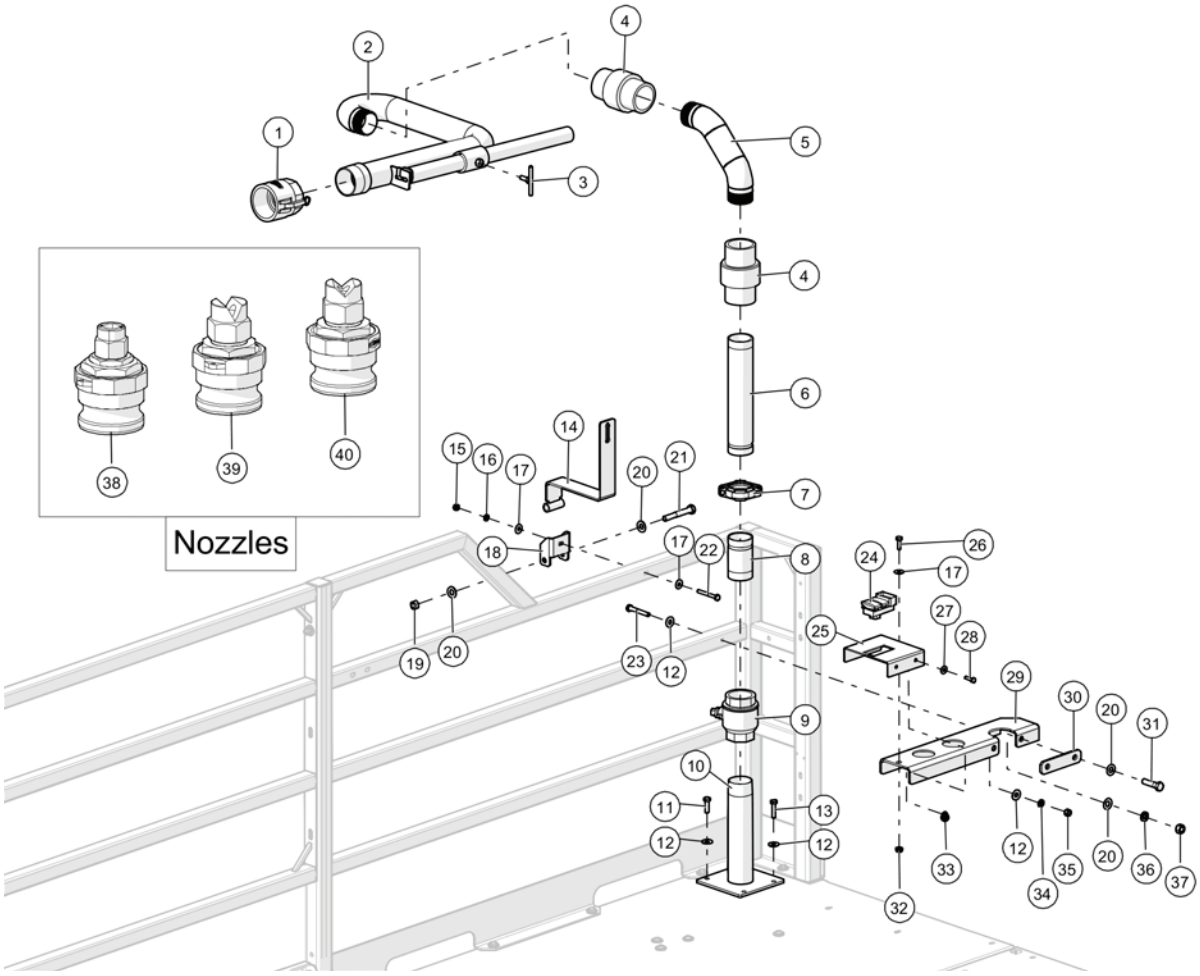
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BOOM

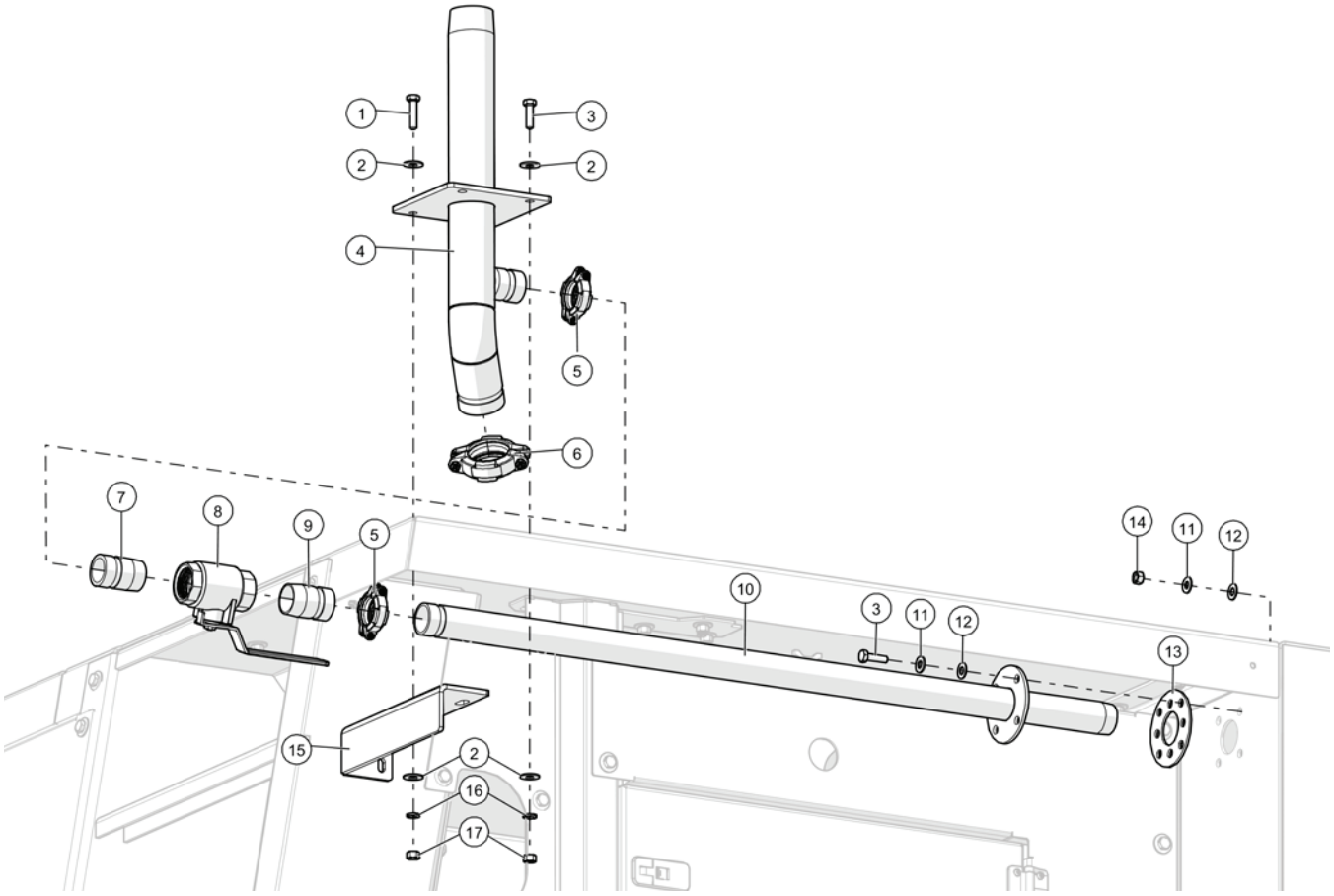
Ref. No.	Part Number	Description	No. Req'd
36	W08L	1/2 in. Lock Washer MAG 501	2
37	N08-13-8	Hex Nut	2
38	71-40-0014	2-1/2 in. 100 GPM Long Distance Nozzle Assembly	1
39	71-40-0006	2-1/2 in. 50° 100 GPM Nozzle Assembly	1
40	71-40-0015	2-1/2 in. 15° 100 GPM Nozzle Assembly	1
NOT SHOWN			
	91-75-0005	Square U-Bolts for Temp Switch Mount	2
KITS AND MARKERS			
▲	71-40-0017	Boom Assembly +4	
●	006969-01	Boom Swivel Rebuild Kit	



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BOOM FEED

Ref. No.	Part Number	Description	No. Req'd
1	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	2
2	W06F	3/8 in. Flat Washer	8
3	B06-1605-8	3/8-16NC x 1 1/4 in. Hex Head Cap Screw	6
4	71-43-0012	Discharge Weldment	1
5	71-45-0029	1-1/4 in. GRUVLOK #7000 Coupling with "E" Gasket	2
6	91-45-0023	Victaulic Clamp 2 in. with Gasket (GRUVLOK)	1
7	71-42-0021	Nozzle Recirculation Valve Inlet	1
8	61-45-0011	VALVE, 1-1/4 in. Full Port, Bronze	1
9	71-42-0022	Nozzle Recirculation Valve Outlet	1
10	71-43-0018	Recirculation Pipe Weld S	1
11	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	8
12	W06S	3/8 in. Galvanized Bonded Sealing	8
13	71-45-0044	Recirculation Gasket	1
14	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	4
15	71-33-0019	Bolt On Platform Support Weld	1
16	W06L	3/8 in. Lockwasher MAGNI 501	4
17	N06-16H-8	3/8-16NC Hex Nut, Grade 8	4



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SLURRY PUMP ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
1	71-44-0003	Modified Slurry Pump 2x3	1
2	71-45-0014	Discharge Gasket	1
3	71-43-0010	Discharge Flange Weldment	1
4	160263	Cap Pipe 1-1/2 in.	1
5	B10-1110-8	Bolt, 5/8-11 x 2-1/2 in.-8	8
6	W10F	5/8 in. Flat Washer MAGNI 501	16
7	91-45-0023	Victaulic Clamp 2 in. with Gasket (GRUVLOK)	1
8	N10-11-8	Hex Nut	8
9	W10L	5/8 in. Lock Washer	8
10	71-45-0019	4 in. GRUVLOK #7000 Coupling with "E" Gasket	2
11	71-43-0015	Suction Pipe Corner L	1
12	B10-1804-8	5/8-18NF x 1 in. Hex Head Cap Screw, Grade 8	4
13	W10LHC	5/8 in. Lock Washer High Collar	4
14	71-43-0016	Suction Pipe End L	1
15	71-45-0013	Suction Pipe Gasket	1

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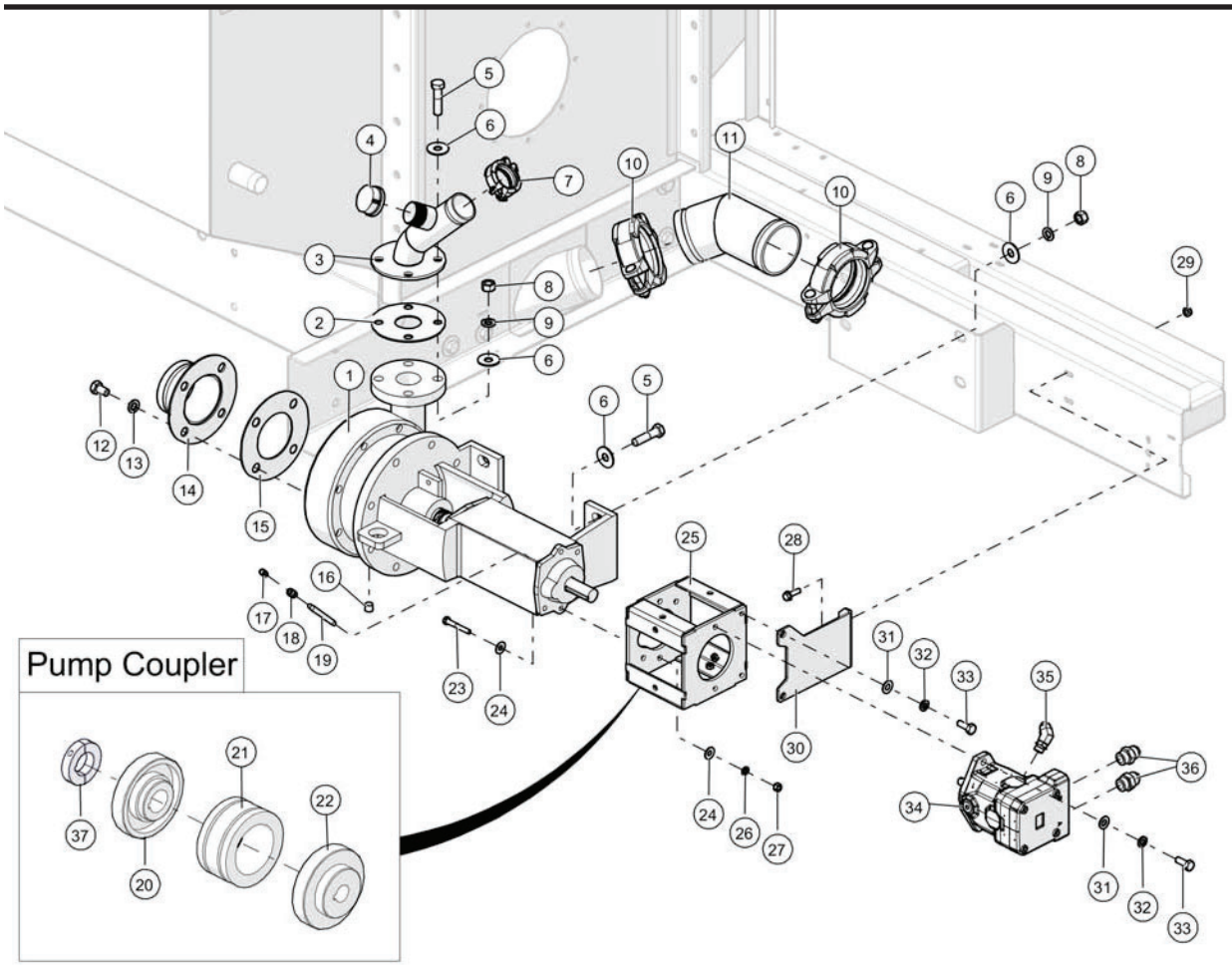

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SLURRY PUMP ASSEMBLY

Ref. No.	Part Number	Description	No. Req'd
16	HF6HP	3/8 in. NPT Hex Pipe Plug	1
17	012120	Grease Fitting, 1/8 PT 90°	1
18	160152	Coupling Pipe 1/8 in. FNPT	1
19	160330	Nipple 1/8 x 3-1/2 in. L SCH 40 Black	1
20	71-45-0002	D-Flex 6S x 1-1/8 FLANGE	1
21	71-45-0004	D-Flex 6H Sleeve	1
22	71-44-0002	Flange Machined Motor	1
23	B06-1610-8	3/8-16 x 2-1/2 Hex Head Cap Screw, Grade 8 Zinc	2
24	W06F	3/8 in. Flat Washer	4
25	71-64-0002	Pump Drive Mount Long	1
26	W06L	3/8 in. Lock Washer MAGNI 501	2
27	N06-16H-8	3/8-16NC Hex Nut, Grade 8	2
28	B06-1605SF-8	3/8-16NC x 1-1/4 in. Long Serrated Flange, Grade 8	2
29	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	2
30	71-21-0008	Pump Motor Plate Support	1
31	W08SF	1/2 in. SAE Flat Washer	4
32	W08L	1/2 in. Lock Washer MAG 501	4
33	B08-1305-8	1/2-13NC x 1-1/4 Hex Head Cap Screw, Grade 8	4
34	71-65-0009	Hydraulic Motor	1
35	HFA3355-10-8	#8 O-Ring x #10 MJIC 45° Elbow	1
36	HFA3105-12	#12 MJIC to #12 SAEM ORB Straight	2
37	71-44-0015	Coupling Stop Collar	1
NOT SHOWN			
	71-45-0060	Mechanical Seal for Modified Slurry Pump 2x3	1
	71-45-0010	Housing Gasket for Modified Slurry Pump 2x3v	1
	71-45-0035	1/8 x 8-3/4 in. I.D. x 9 in. O.D. O-Ring for Modified Slurry Pump 2x3	1
	71-44-0005	Pump Spacer	1
	71-44-0009	Vortex Impeller	1

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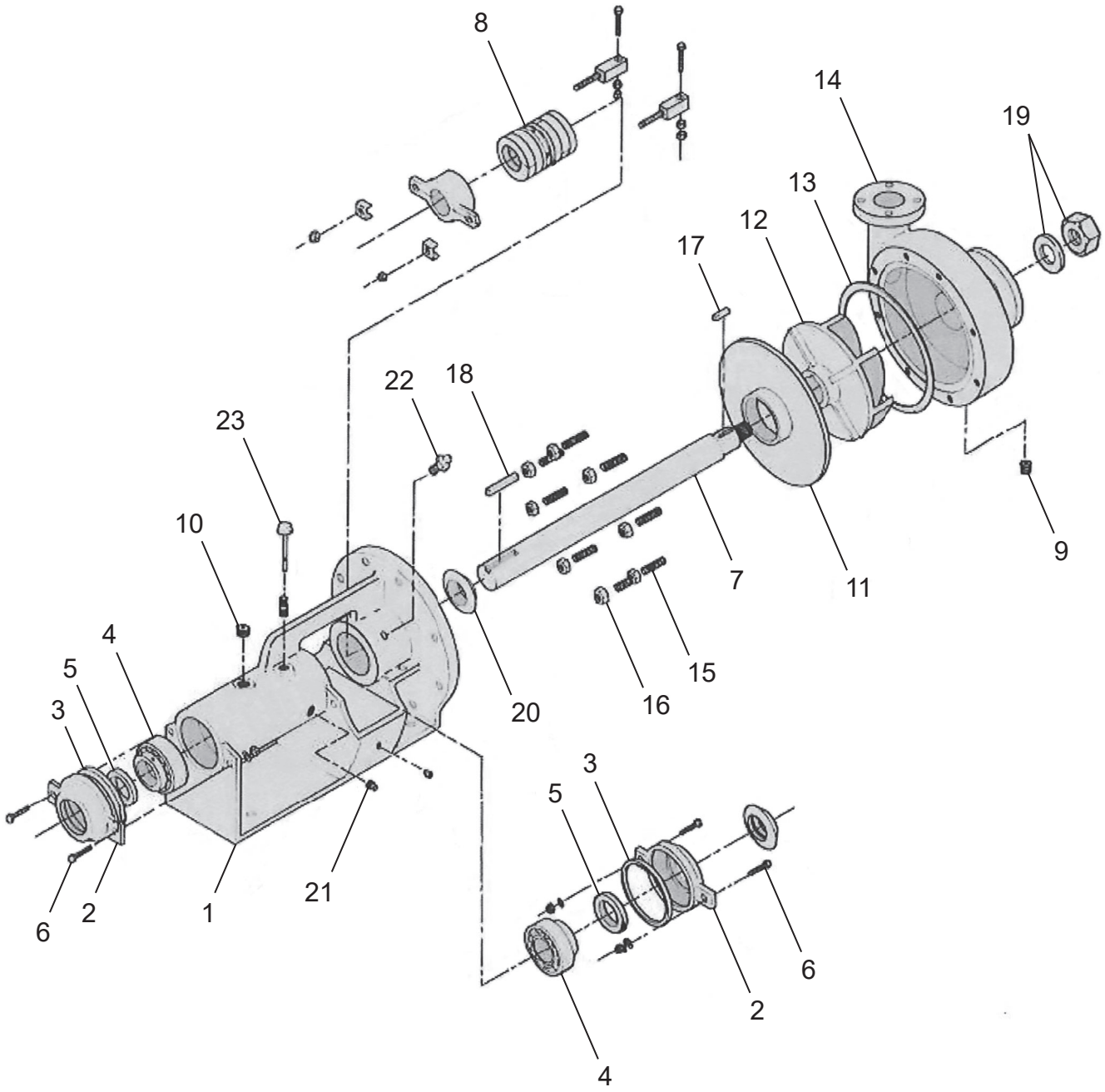

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

XA1200 OO1101

SLURRY PUMP, DETAIL

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	71-45-0065	Pedestal [Specify Square or Round Tube]	1
2	▲	71-44-0013	Bearing Cap - Drive End [Specify Square or Round Tube]	1
	▲	71-45-0045	Bearing Cap - Wet End [Specify Square or Round Tube]	1
3	▲	71-45-0063	Bearing Cap Gasket	2
4	▲	71-45-0061	Bearing Assembly	2
5	▲	71-45-0064	Oil/Grease Seal	2
6	▲	X0640	Bolt [Bearing Cap Bolt Assembly]	4
	▲	WO6	Washer [Bearing Cap Bolt Assembly]	8
	▲	Y06	Nut [Bearing Cap Bolt Assembly]	4
7	▲	71-45-0062	Shaft	1
8	▲	71-45-0060	Mechanical Seal	1
9	▲	160234	Asing Drain	1
10	▲	71-45-0068	Filler Breather Cap	1
11	▲	71-44-0006	Wear Plate	1
12	▲	71-44-0009	Impeller	1
13	▲	71-45-0010	Casi Ng Gasket	1
14	▲	71-44-0012	Casing	1
15	▲	71-45-0034	Stud	8
16	▲	Yl0	Nut	8
17	▲	190123-16	Impeller Key	1
18	▲	190123-40	Drive Coupling Key	1
19	▲	71-45-0066	Impeller Lock Nut And Washer	1
20	▲	71-45-0067	Slinger	1
21	▲	160234	Plug	1
22	▲	007705	Grease Fitting	3
23	▲	160234	Plug	1
NOT SHOWN				
	▲	71-45-0056	Mechanical Seal O-Ring [included with Part 8]	2
	▲	71-45-0069	Oil Vent Valve [included with Part 24]	1
	▲	71-44-0005	Pump Spacer Ring	1
	▲	71-45-0035	Pump Spacer Seal, O-Ring	1
		71-43-0016	Suction Pipe End-L	1
		71-45-0013	Suction Gasket	1
		71-45-0014	Discharge Gasket	1
KITS AND MARKERS				
▲		71-44-0003	Pump Assembly	

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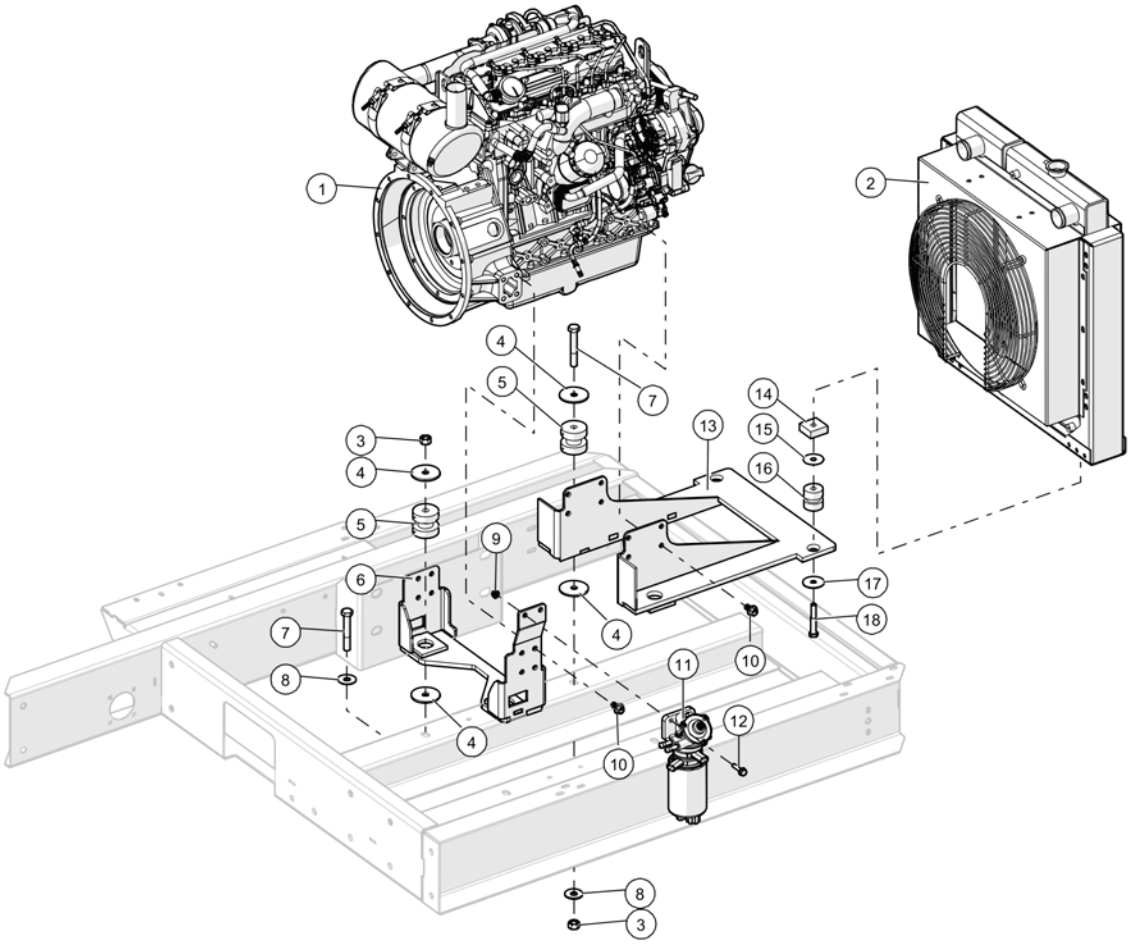
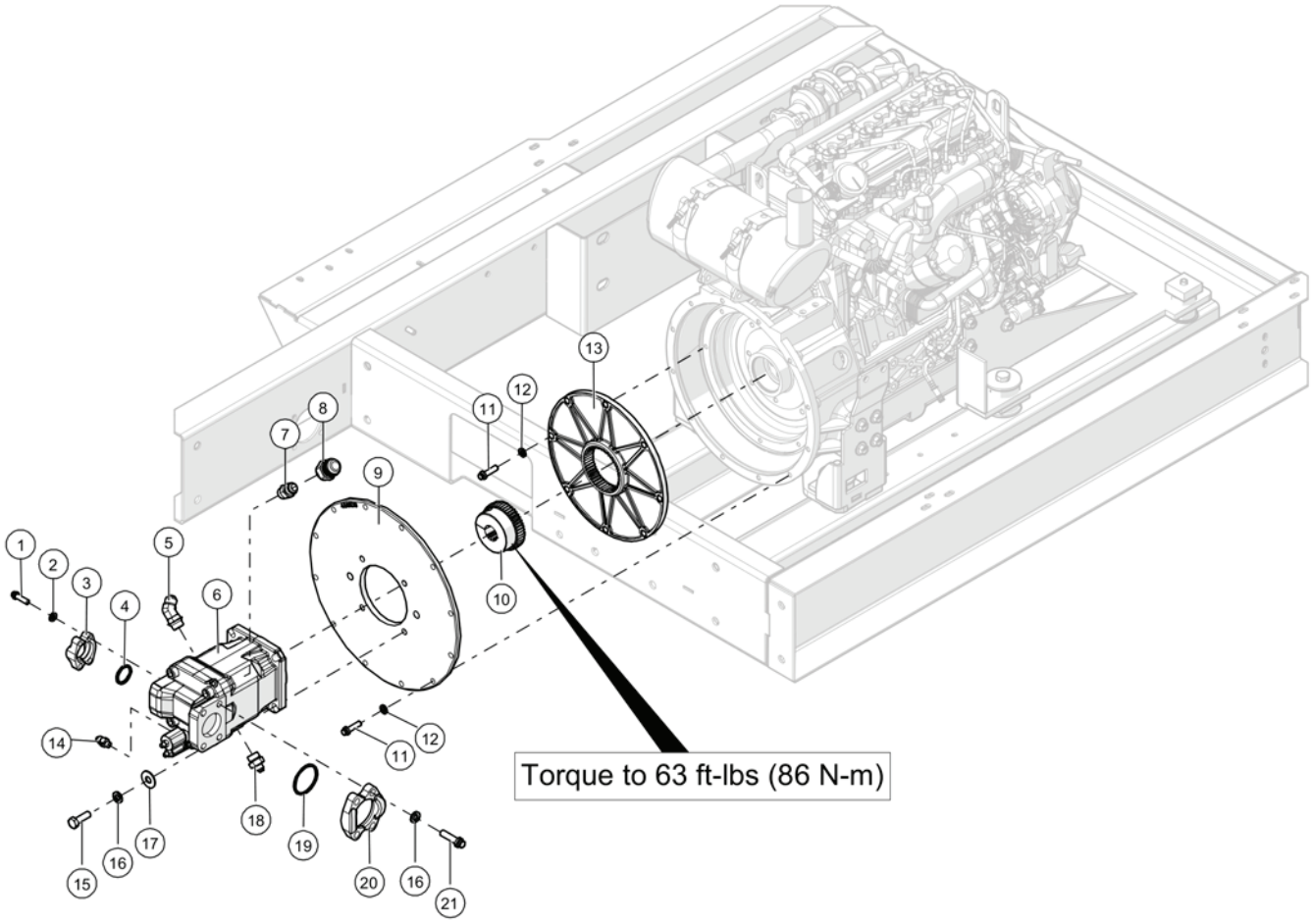


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE

Ref. No.	Part Number	Description	No. Req'd
1	71-55-0060	Engine Assembly, DOOSAN G2 Open Power Unit DM	1
2	----------	Radiator	1
3	N10-11L-8	5/8-11 NC Lock Nut, Grade 8	4
4	005861	440 Cab Snubbing Washer	4
5	91-55-0004	Isolator Engine	2
6	71-53-0003	Engine Rear Leg Weldment Wide	1
7	B10-1116-8	5/8-11NC x 4 in. Hex Head Cap Screw, Grade 8 MAG 501	4
8	W10F	5/8 in. Flat Washer MAGNI 501	4
9	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	2
10	B12M-1.7525-8.8	M12-1.75 X 25MM Serrated Flange, Grade 8.8	16
11	----------	Fuel Filter Assembly	1
12	B06-1606SF-8	3/8-16NC x 1-1/2 in. Serrated Flange, Grade 8	2
13	71-53-0002	Radiator Leg Weldment	1
14	71-55-0011	Radiator Spacer (Long)	2
15	----------	Washer	2
16	----------	Shock Mount Universal Type 125 lbs.	2
17	----------	Washer	2
18	B08-1313-8	1/2-13NC x 3-1/4 Hex Head Cap Screw, Grade 8	2
NOT SHOWN			
	71-55-0016	Fuel Filter/Water Separator, DOOSAN G2 74 HP	1
	71-55-0017	Oil Filter, DOOSAN G2 74 HP	1
	71-55-0020	Fan Belt, DOOSAN G2 74 HP	1
	71-55-0021	Alternator, DOOSAN G2 74 HP	1
	71-55-0022	Starter, DOOSAN G2 74 HP	1
	71-55-0041	Pusher Fan	1
	71-55-0058	Water Pump	1
	71-55-0059	Water Pump Gasket	1
	71-53-0007	Front Engine Mount	2
	71-53-0008	Clamp Plate Assy	2
	71-55-0062	Engine Isolator	2
	71-51-0025	Screen Radiator DM	1
	71-51-0026	Mount Water Bottle DM	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

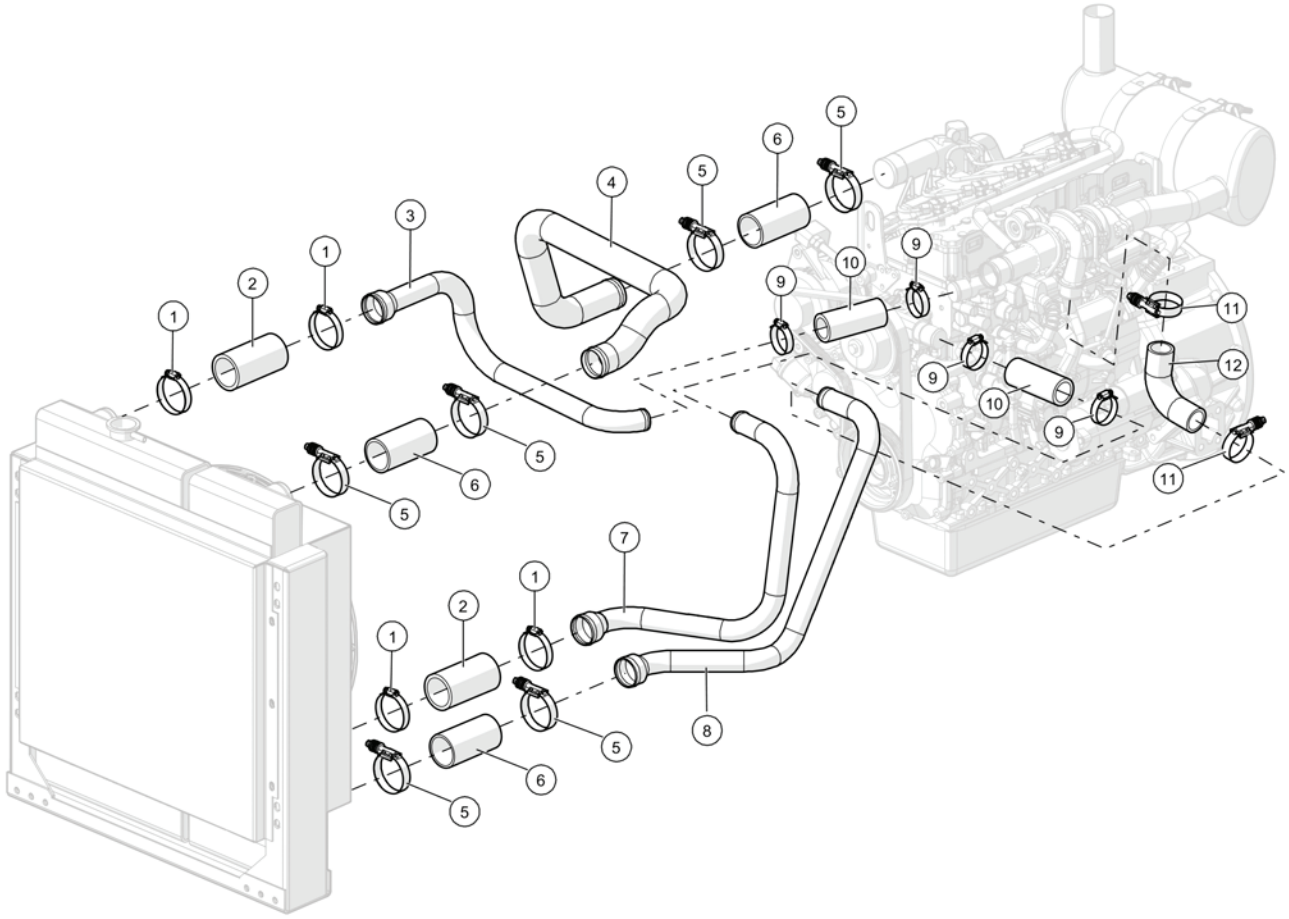
DRIVE PUMP AND COUPLER

Ref. No.	Part Number	Description	No. Req'd
1	B06-1605L-8	3/8-16 x 1-1/4 12 Point HD Grade 8	4
2	W06L	3/8 in. Lock Washer MAGNI 501	4
3	HF16SF-2	1 in. Code 61 Split Flange Half	2
4	181040	O-Ring #16 Split Flang VITON 1.296	1
5	HFA3355-10	#10 O-Ring x #10 MJIC 45° Elbow	1
6	71-65-0001	Hydraulic Pump-Load Sense	1
7	HFA3105-10	#10 MJIC to #10 SAE ORB Straight	1
8	HF2406-10-16	#10 FJIC to #16 MJIC Adapter	1
9	71-55-0003	PMP/SAE 4/ST/SAE-C/2-4/9.5	1
10	71-55-0002	BOWEX 55T/HUB/14T/C/12/24/1.25 in./CC	1
11	B10M-1.535L-10	M10-1.5 x 35MM 12 Point Grade 10.9	20
12	W10ML	M10 Lock Washer	20
13	71-55-0001	BOWEX 55T/10 in. PA Flange	1
14	HFA3105-6-4	#6 MJIC to #4 SAE ORB Straight	1
15	B08-1306-8	1/2-13NC x 1-1/2 Hex Head Cap Screw, Grade 8	4
16	W08L	1/2 in. Lock Washer MAG 501	8
17	W08F	1/2 in. Flat Washer	4
18	HFA3105-6-10	#6 MJIC to #10 SAE ORB Straight	1
19	181034	O-Ring #32 Split Flange VITON 90 DUR	1
20	HF32SF-2	2 in. Code 61 Split Flange Half	2
21	B08-1307L-8	1/2-13NC x 1-3/4 in. 12 Point HD Grade 8	4

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

RADIATOR AND CAC TUBES

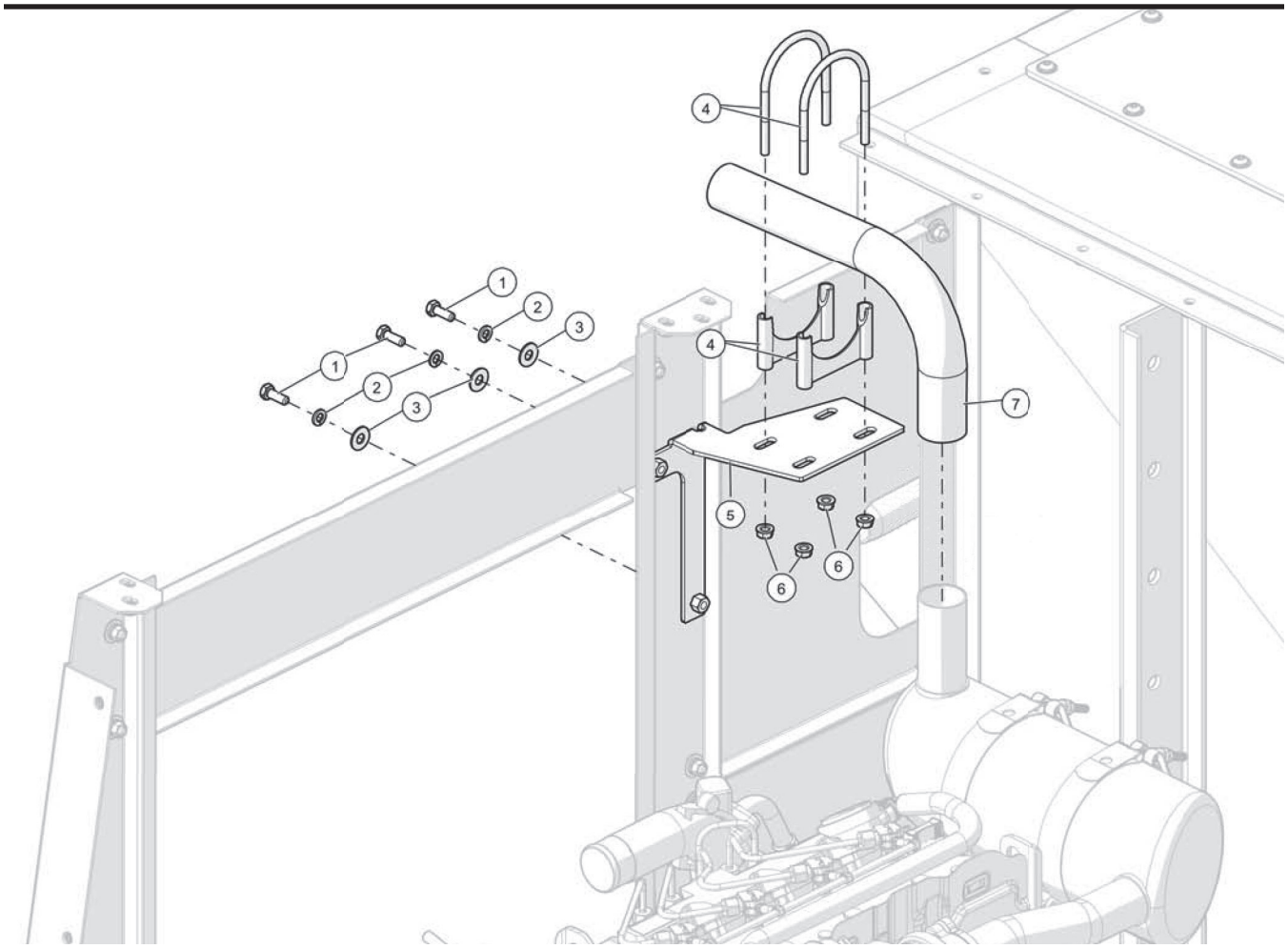
Ref. No.	Part Number	Description	No. Req'd
1	71-55-0048	Clamp	4
2	71-55-0046	Coupler	2
3	71-55-0044	Radiator Tube, Top	1
4	71-55-0033	CAC Tube, Top	1
5	71-55-0031	Clamp	6
6	71-55-0032	Coupler	3
7	71-55-0043	Radiator Tube, Bottom	1
8	71-55-0040	CAC Tube, Bottom	1
9	71-55-0047	Clamp	4
10	71-55-0045	Coupler	2
11	71-55-0039	Clamp	2
12	71-55-0038	Coupler Bend	1



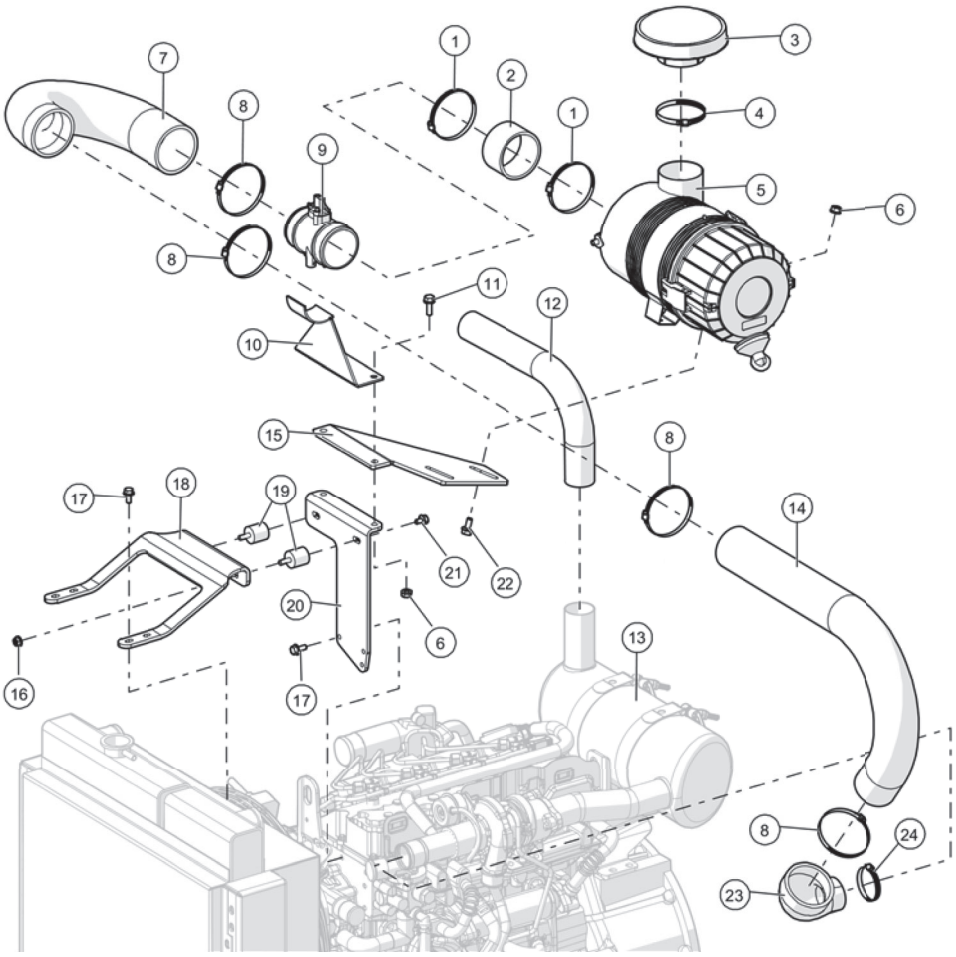
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

EXHAUST BRACKET

Ref. No.	Part Number	Description	No. Req'd
1	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	3
2	W06L	3/8 in. Lock Washer MAGNI 501	3
3	W06F	3/8 in. Flat Washer	3
4	403-55-013	Clamp 3 in. Guillotine Round U-Bolt	2
5	71-53-0006	Pillar Exhaust Bracket Support Weld	1
6	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	4
7	71-55-0025	Custom 90° Elbow	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

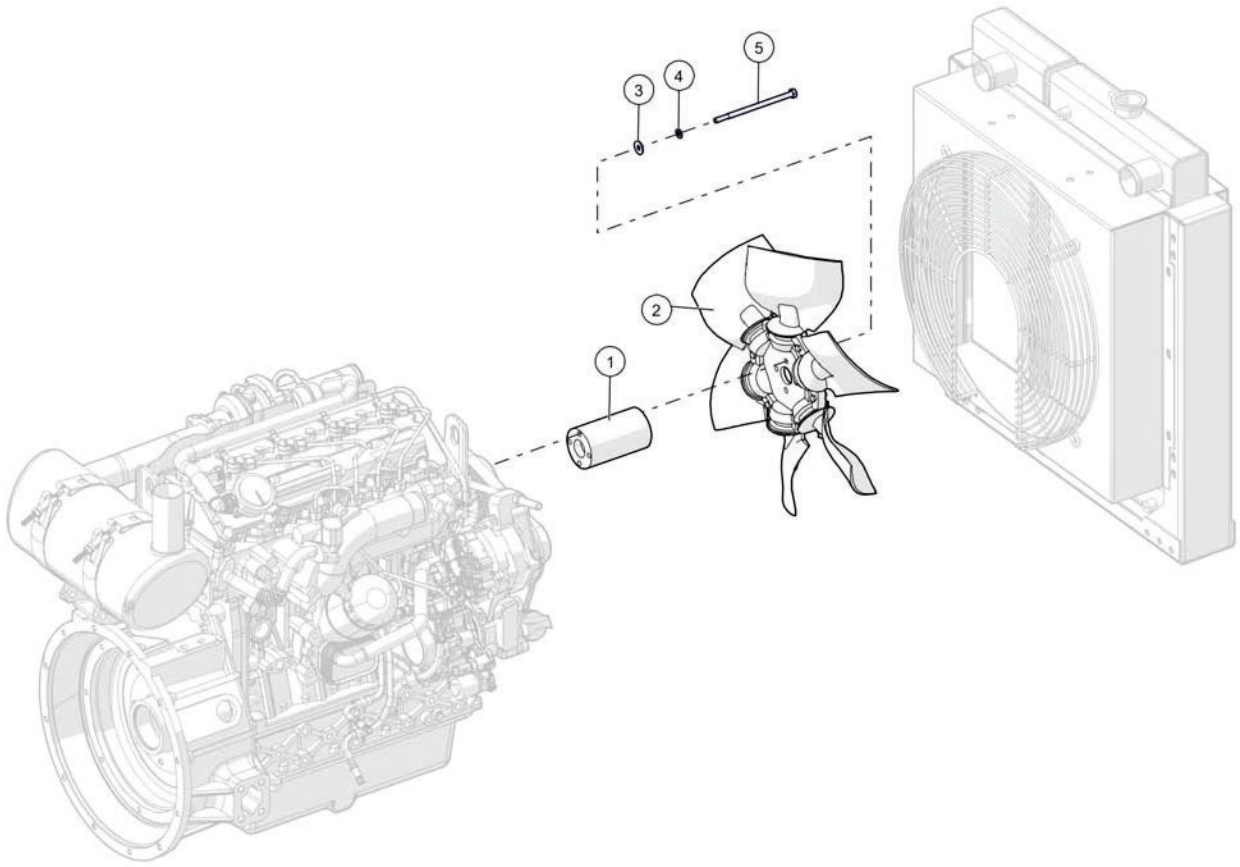
ENGINE AIR INTAKE AND EXHAUST

Ref. No.	Part Number	Description	No. Req'd
1	----------	null	2
2	----------	null	1
3	----------	null	1
4	----------	null	1
5	----------	null	1
6	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	2
7	----------	null	1
8	----------	null	4
9	----------	null	1
10	71-55-0028	Tube Support	1
11	B06-1604SF-8	3/8-16NC x 1 in. Long Serrated Flange, Grade 8	2
12	71-55-0025	Custom 90° Elbow	1
13	71-55-0024	DOC/Muffler, DOOSAN G2 74 HP	1
14	71-55-0029	DOOSAN A.C. 3 in. Aluminum Bent Tube	1
15	----------	null	1
16	----------	N06M-1.0SF-8.8	2
17	----------	B06M-1.015SF-8.8	7
18	----------	null	1
19	----------	null	2
20	----------	null	1
21	----------	B06M-1.010SF-8.8	2
22	B06-1603SF-8	3/8-16NC x 3/4 in. Long Serrated Flange, Grade 8	2
23	71-55-0030	Elbow Reducing, 3 x 1-3/4	1
24	----------	null	1
NOT SHOWN			
	71-55-0018	Primary Air Filter, DOOSAN G2 74 HP	1
	71-55-0019	Secondary Air Filter, DOOSAN G2 74 HP	1
	71-55-0024-01	Gasket for DOC/Muffler, DOOSAN G2 74 HP	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

RADIATOR FAN

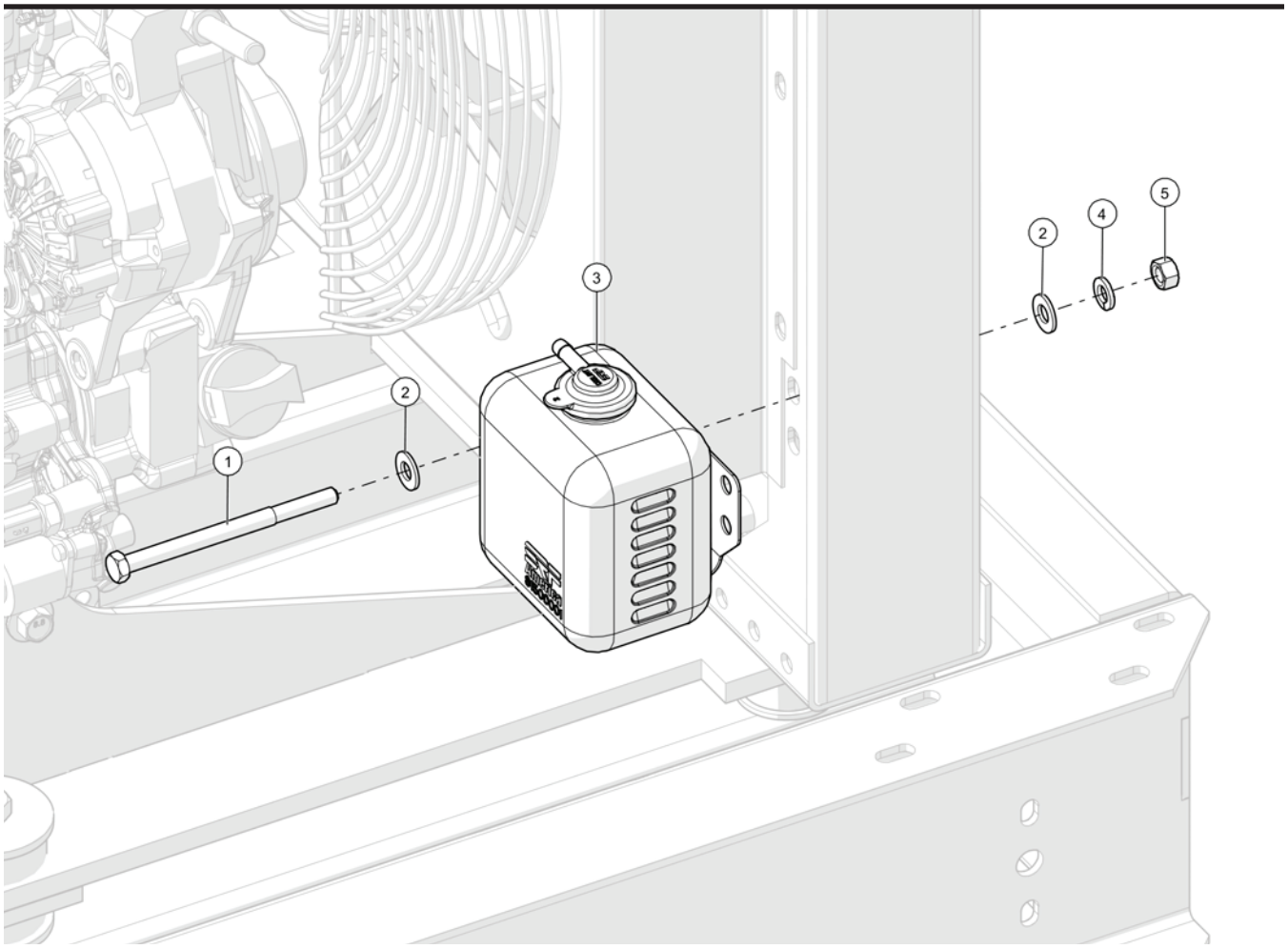
Ref. No.	Part Number	Description	No. Req'd
1	71-55-0052	Fan Spacer	1
2	71-55-0041	Fan	1
3	W08MF	Flat Washer M8	4
4	W08ML	8mm Split Lock Washer	4
5	----------	B08M-1.2150-10	4



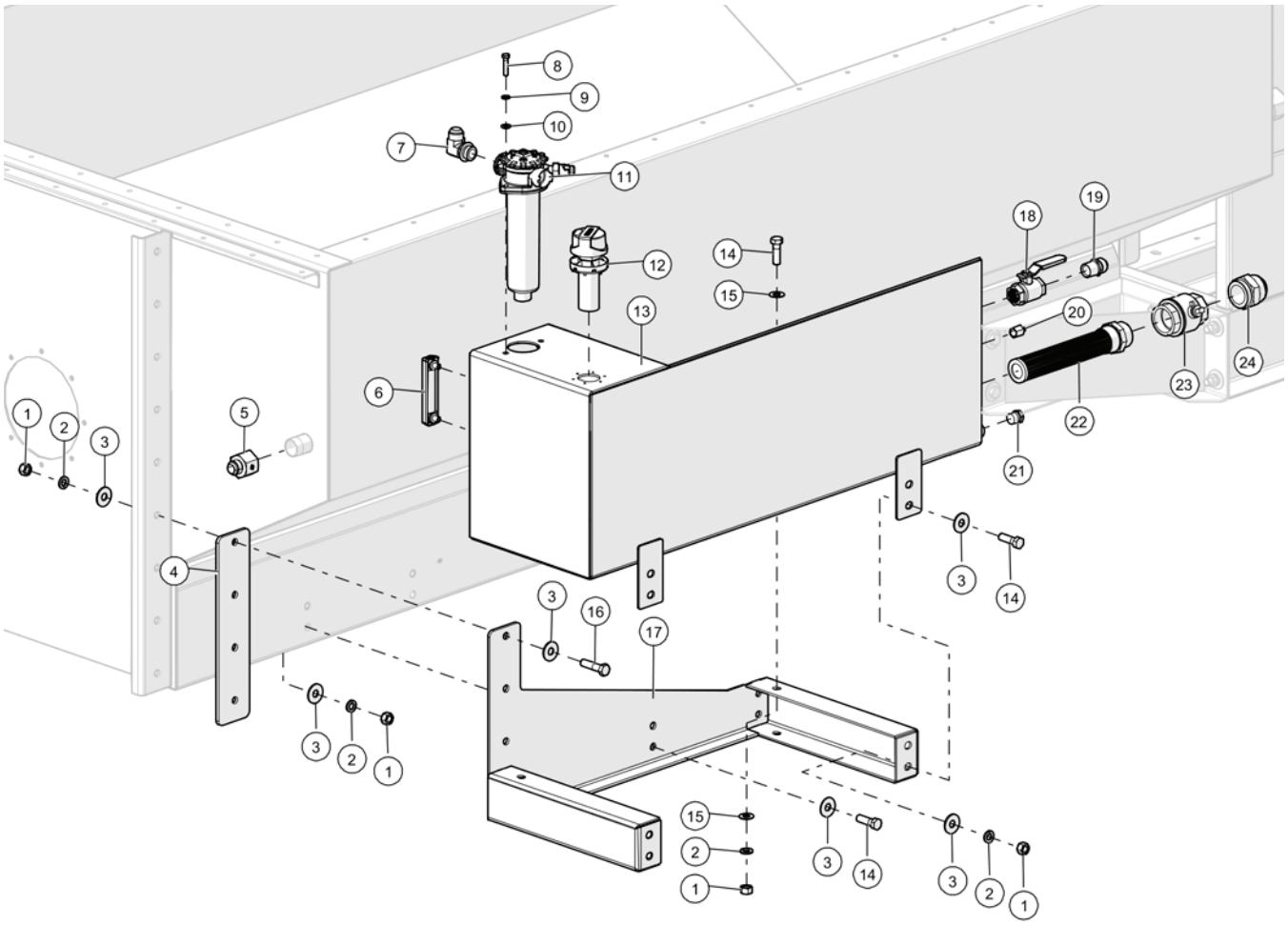
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

COOLANT RECOVERY TANK

Ref. No.	Part Number	Description	No. Req'd
1	B06-1620-8	3/8-16NC x 5 in. Hex Head Cap Screw, Grade 8 MAG 501	2
2	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	4
3	71-55-0015	Coolant Recovery Tank	1
4	W06L	3/8 in. Lock Washer MAGNI 501	2
5	N06-16H-8	3/8-16NC Hex Nut, Grade 8	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

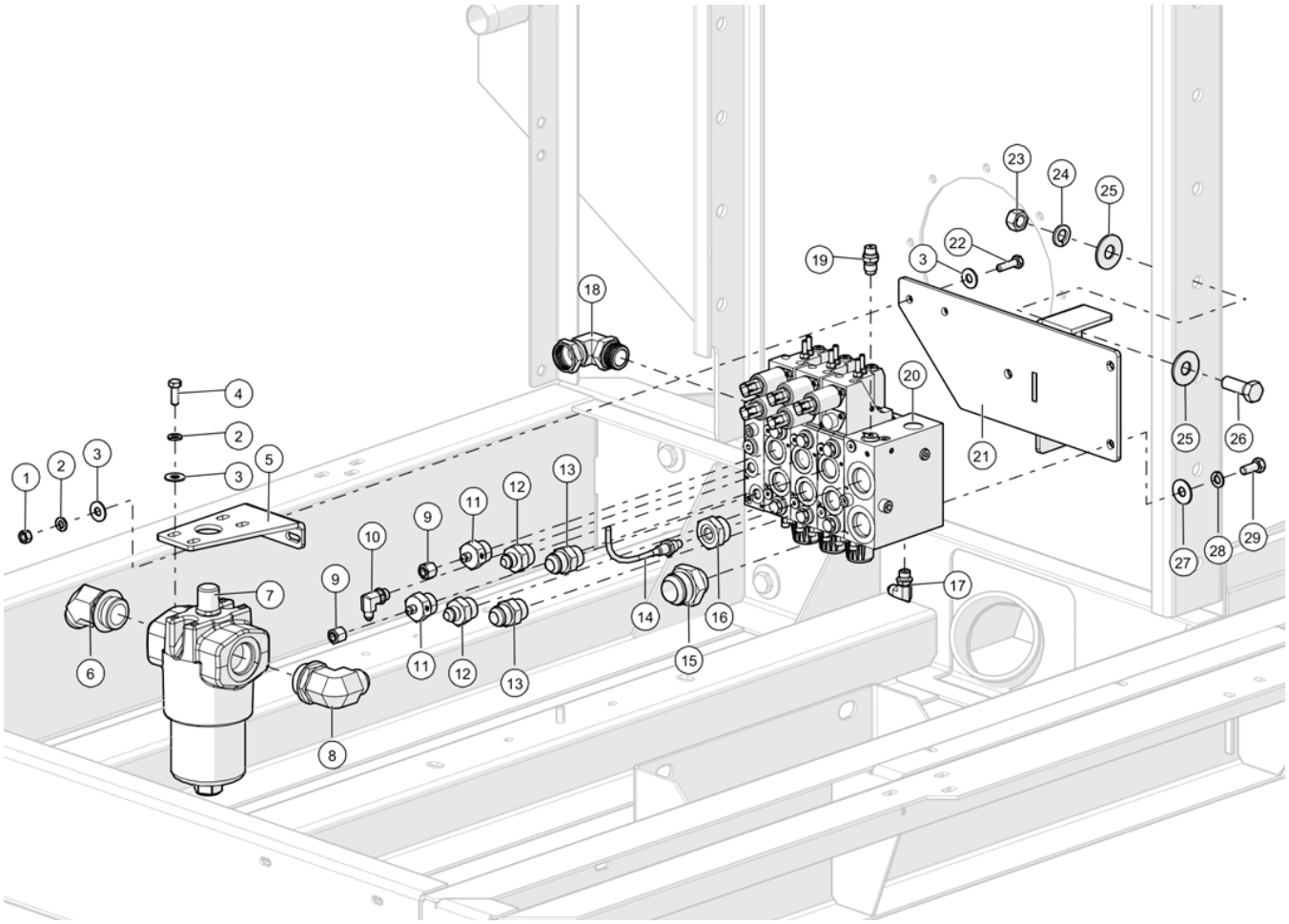


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HYDRAULIC TANK

Ref. No.	Part Number	Description	No. Req'd
1	N10-11-8	Hex Nut	14
2	W10L	5/8 in. Lock Washer	14
3	W10F	5/8 in. Flat Washer MAGNI 501	24
4	71-01-0065	Hydraulic/Fuel Tank Support Spacers (Skid Units ONLY)	1
5	HF2405-16-20	#16MJIC to 1-1/4 in. FNPT Adapter	1
6	080329A	Level Gauge	1
7	HFA3405-16	#16 MJIC to #16 SAE ORB 90° Elbow	1
8	B06-1607-8	3/8-16 x 1-3/4 Hex Cap, Grade 8 Zinc	2
9	W06L	3/8 in. Lock Washer MAGNI 501	2
10	W06SF	3/8 SAE Flat Washer, Grade 8 Zinc	2
11	71-65-0005	Return Filter	1
12	61-65-0006	Breather Fill	1
13	71-13-0002	XA1200 Hydraulic Tank	1
14	B10-1108-8	5/8-11NC x 2 in. Hex Head Cap Screw, Grade 8 MAGNI 501	10
15	W10SF	5/8 SAE Flat Washer, Grade 8 Zinc	4
16	B10-1110-8	Bolt, 5/8-11 x 2-1/2 in.-8	4
17	71-13-0009	Hydraulic Tank Support Pilot	1
18	61-45-0007	Valve, 1 in. Full Port Brass	1
19	HF3105-16-16	#16 JIC to 1 in. MNPT Adapter	1
20	HF2405-4-6	#4M JIC to 3/8 in. FNPT Adapter	1
21	HF12HP	3/4 in. NPT Hex Plug	1
22	71-65-0011	Suction Strainer 2 in. MNPT	1
23	012287	Ball Valve 2 in. Brass	1
24	HF3105-32	#32 MJIC x 2 in. Male NPT	1
NOT SHOWN			
	71-65-0006	Return Filter Element	1
	71-65-0025	Seal Kit for Return Filter	1
	71-65-0028	Return Filter Cap Assembly	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

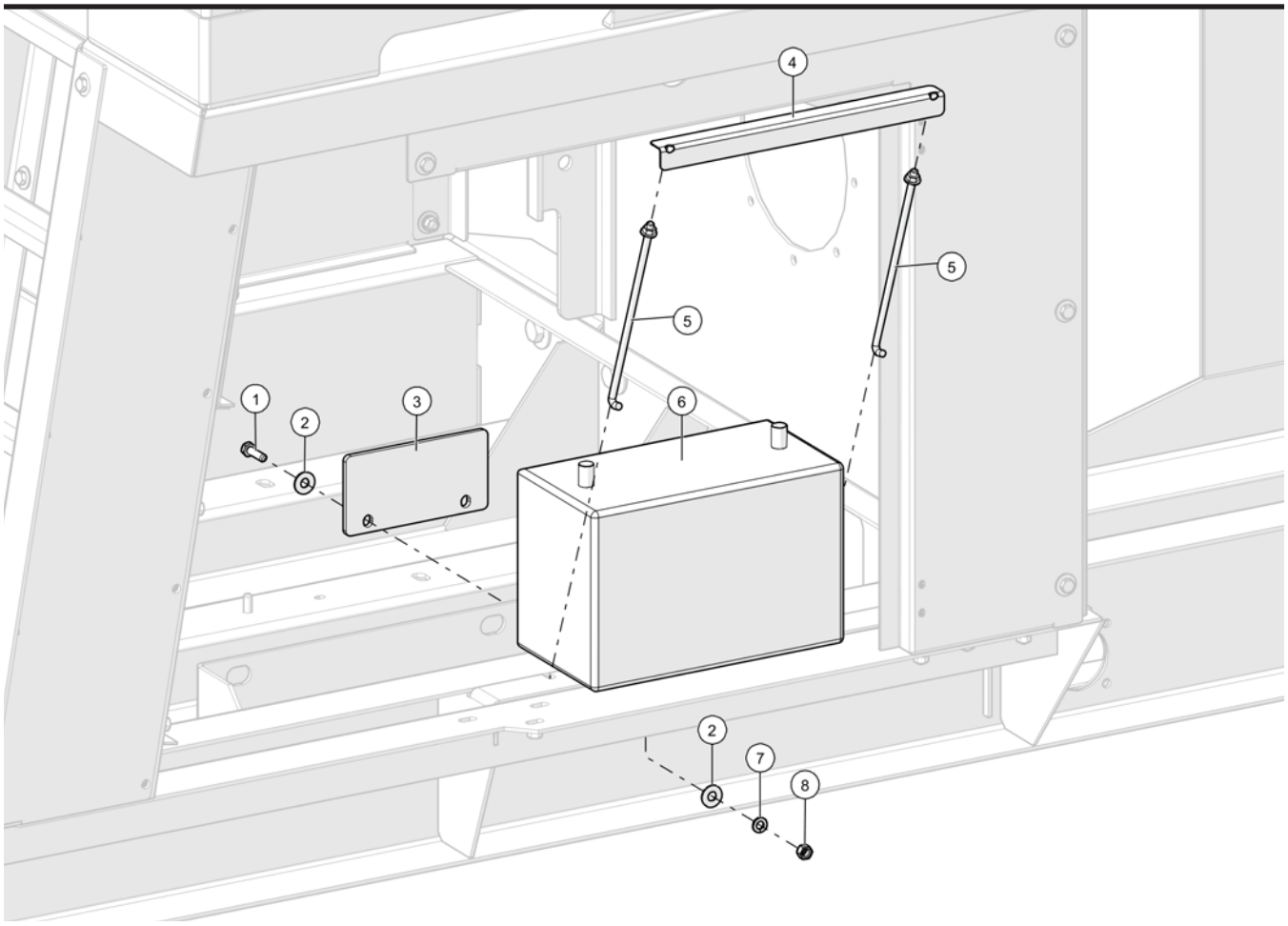
VALVE MANIFOLD AND HYDRAULIC OIL FILTER

Ref. No.	Part Number	Description	No. Req'd
1	N06-16H-8	3/8-16NC Hex Nut, Grade 8	2
2	W06L	3/8 in. Lock Washer MAGNI 501	6
3	W06F	3/8 in. Flat Washer	8
4	B06-2404-8	3/8-24NC x 1 in. Hex Head Cap Screw, Grade 8	4
5	71-61-0006	Bolt On Filter Support Plate	1
6	HFA3355-16-20	#16 MJIC to #20 SAE ORB 45° Elbow	1
7	71-65-0027	Pressure Filter	1
8	HFA3405-16-20	#16 MJIC to #20 SAE ORB 90° Elbow	1
9	HFT2205C-4	#4 Face Seal Cap	2
10	HFA3405-4-6	#4 MJIC x #6 MORB 90° Elbow	1
11	HFA3105-4-12	#4 MJIC to #12 SAE ORB Straight	2
12	HFA3105-8-12	#8 MJIC to #12 M SAE ORB Adapter	2
13	HFA3105-12	#12 MJIC to #12 SAE M ORB Straight	2
14	601-75-001	Transducer Temperature GSNA	1
15	HFA3105-20-16	#20 MJIC to #16 SAE ORB Adapter	1
16	HF16-6ARC	#16 MORB to #6 FORB Adapter	1
17	HFA3405-6	#6 MJIC x #6 SAE ORB 90° Elbow	1
18	HFA6809-16-16	#16 SAE M ORB to #16 FJ 90° Elbow	1
19	HFHY06003737	Test Port #6 SAE MORB 16mm Thread	1
20	71-65-0004	3-Section Hydraulic Valve	1
21	71-63-0002	Valve Support Weldment	1
22	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw, Grade 8	2
23	N10-11-8	Hex Nut	2
24	W10L	5/8 in. Lock Washer	2
25	W10F	5/8 in. Flat Washer MAGNI 501	4
26	B10-1107-8	5/8-11NC x 1-3/4 in. L Hex Head Cap Screw, Grade 8	2
27	W07F	7/16 in. Flat Washer	2
28	W07L	7/16 in. Lock Washer MAGNI 501	3
29	B07-2004-5-Z	7/16-20 x 1 Hex Head Cap Screw, Grade 5 Zinc	3
NOT SHOWN			
	91-65-0017	Cartridge Charge Filter 42 GPM (160LPM) for Pressure Filter	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BATTERY

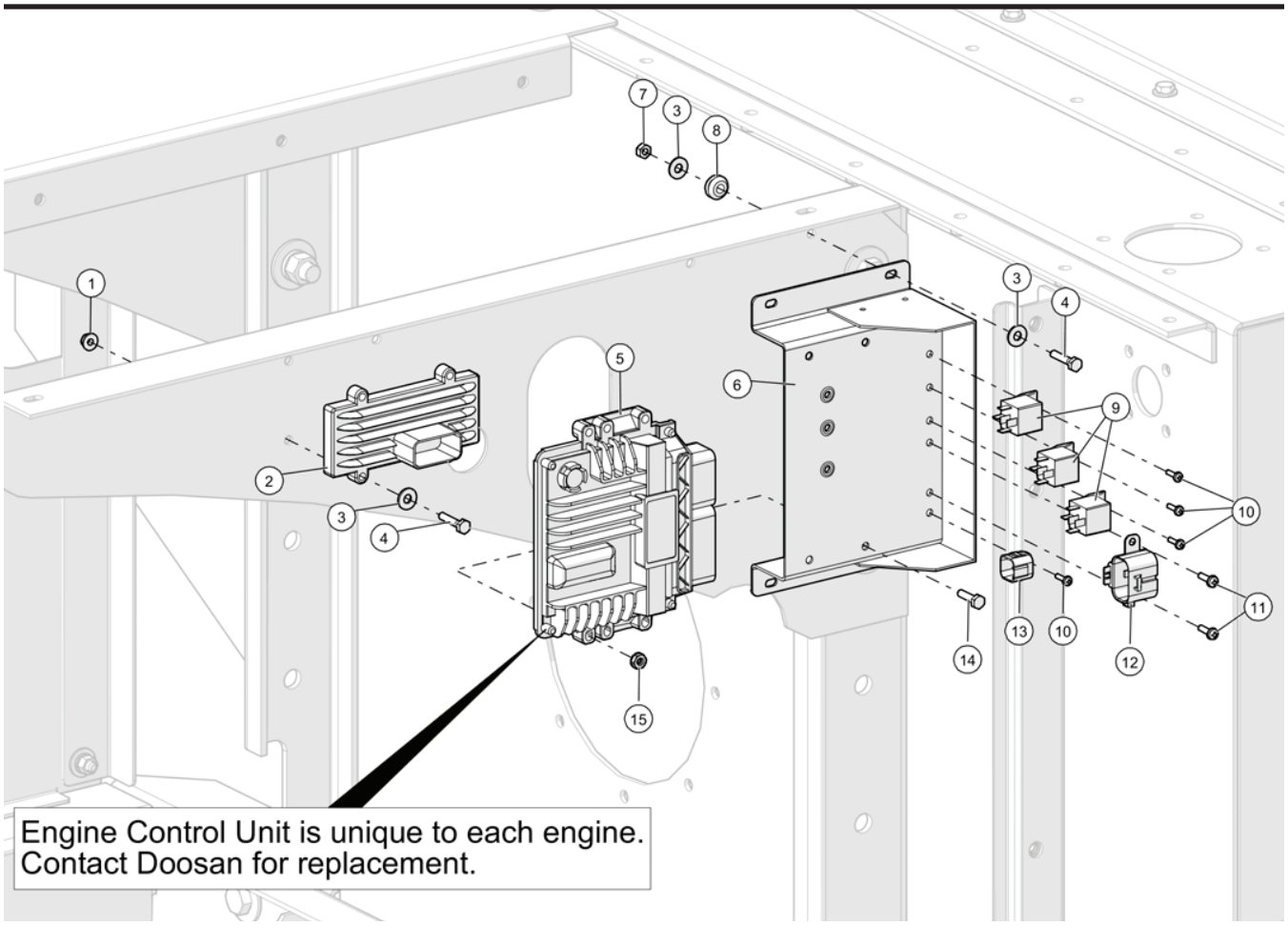
Ref. No.	Part Number	Description	No. Req'd
1	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw, Grade 8	2
2	W06F	3/8 in. Flat Washer	4
3	91-21-0163	Battery Side Plate	1
4	71-21-0017	Battery Tie Down	1
5	601-55-004	Bolt Hold Down J-Hook	2
6	75161	Battery 12V DC Size 31	1
7	W06L	3/8 in. Lock Washer MAGNI 501	2
8	N06-16H-8	3/8-16NC Hex Nut, Grade 8	2



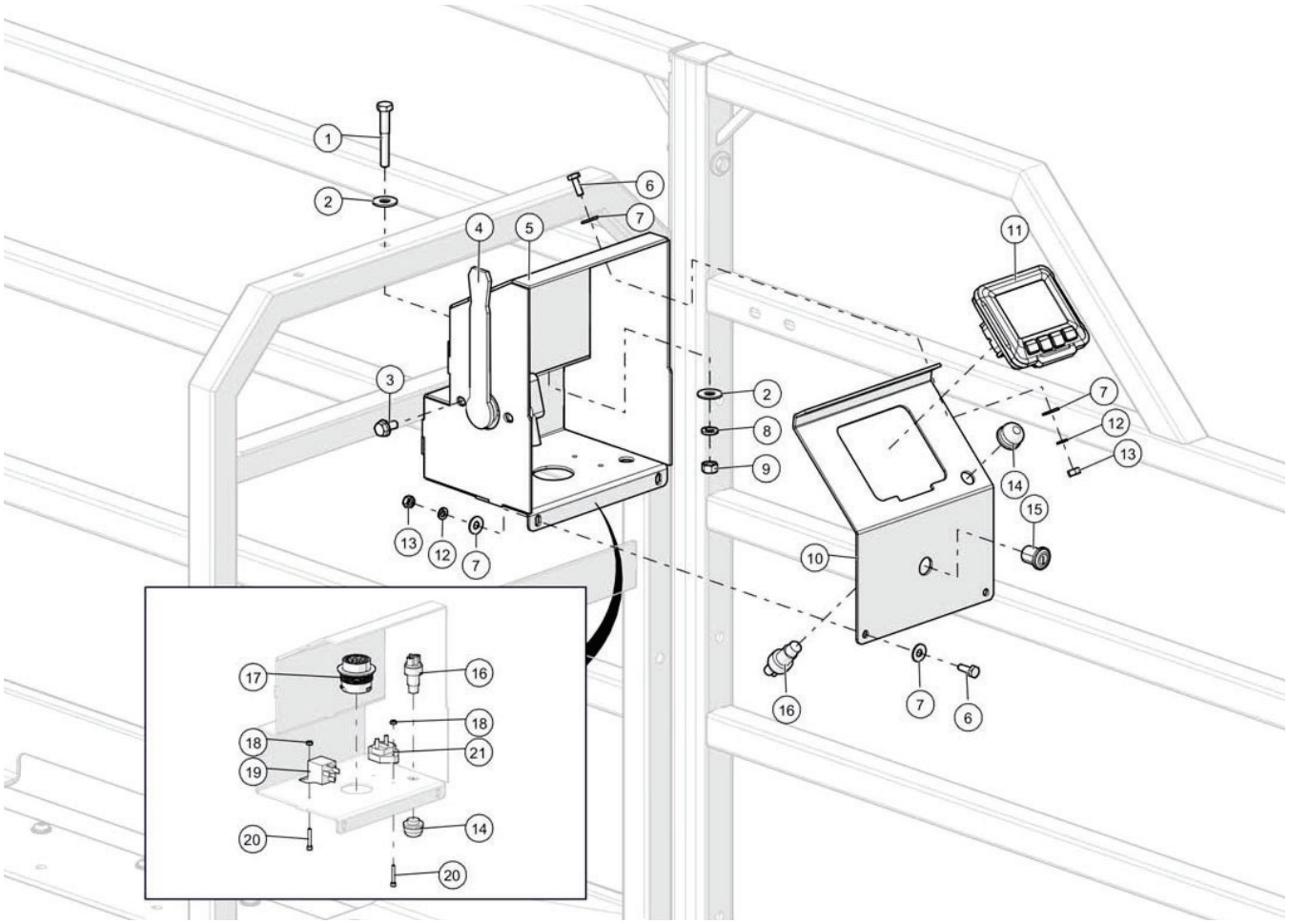
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

ENGINE CONTROL UNIT AND MC41

Ref. No.	Part Number	Description	No. Req'd
1	N04-20SF-8	1/4-20 Serrated Flange Hex, Grade 8 Zinc	4
2	71-75-0001	IQAN Controller MC41	1
3	W04F	1/4 in. Flat Washer	12
4	B04-2005-8	1/4-20NC x 1-1/4 in. Long, Grade 8	8
5	----------	Engine Control Unit	1
6	----------	ECU Bracket	1
7	N04-20L-8	1/4-20 Locknut	4
8	440-45-038	Rubber Grommet, 5/16 ID	4
9	----------	Relay	3
10	----------	Bolt	4
11	----------	Bolt	2
12	----------	Fuse Holder	1
13	----------	Diagnostics Connector Holder	1
14	B04-2004-8	1/4-20 NC x 1 in. Long, Grade 8	4
15	N04-20K	1/4-20 NC Keps Nut	4



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

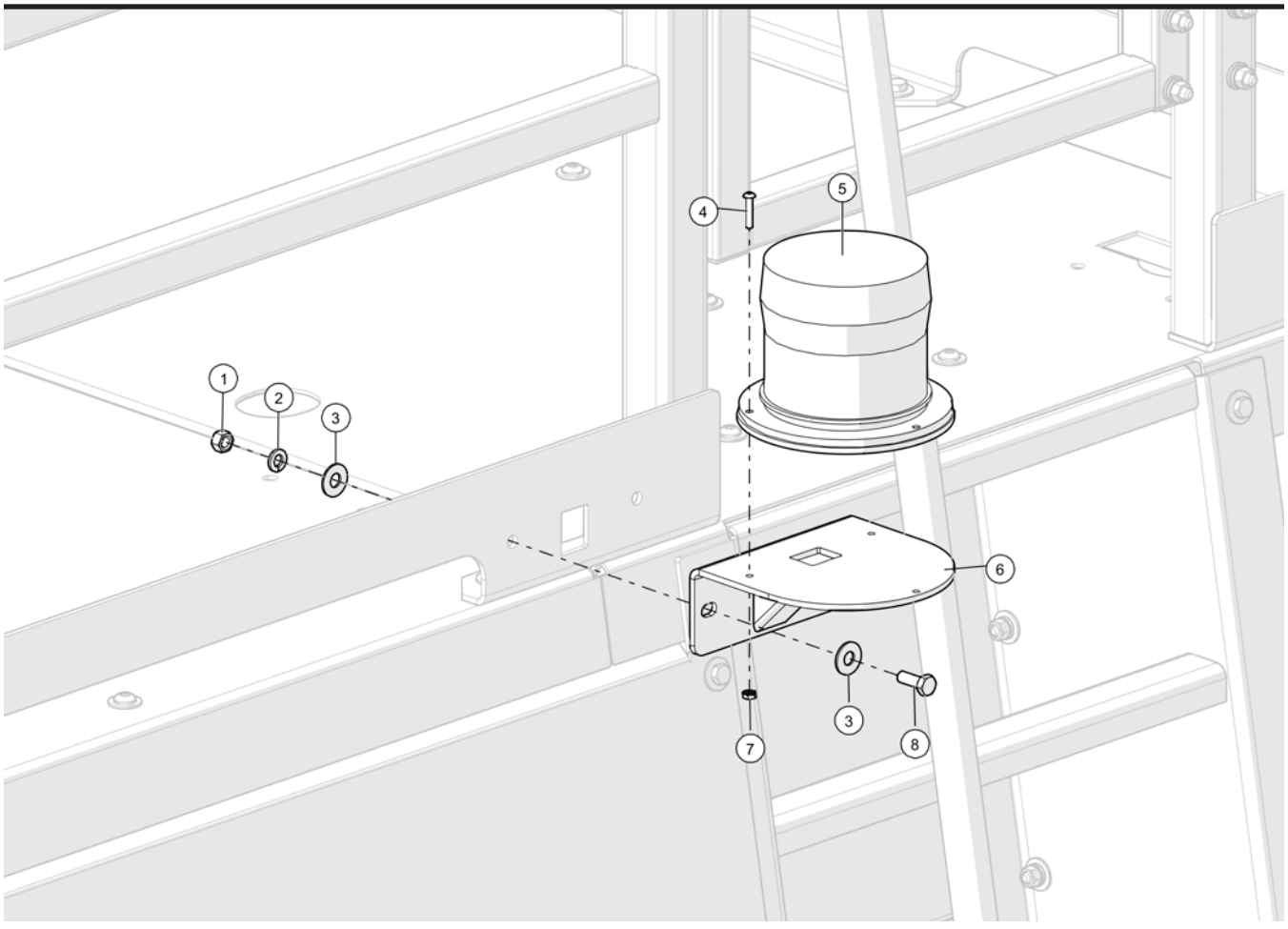
CONTROL BOX

Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1		B06-1610-8	3/8-16 x 2-1/2 in. Hex Head Cap Screw, Grade 8 Zinc	2
2		W06F	3/8 in. Flat Washer	4
3		B08M-1.216SF-8.8	Bolt, M8 x 1.25 x 16mm Long Grade 8.8 SERRFLG HH	2
4		91-72-0007	Lever Hand Control	1
5		71-79-0001	Control Box Weld	1
6		B04-2003-8	1/4-20 x 3/4 in. Long Hex Head Cap Screw, Grade 8	4
7		W04F	1/4 in. Flat Washer	8
8		W06L	3/8 in. Lock Washer MAGNI 501	2
9		N06-16H-8	3/8-16NC Hex Nut, Grade 8	2
10		71-77-0015	Display Mount	1
11		71-75-0011	Display Cross Control VI 2 , Programmed	1
12		W04L	1/4 in. Lock Washer	4
13		N04-20-8	1/4-20 Nut	4
14	▲	170347	Switch Boot. Black	2
15		170301	Ignition Switch	1
16	▲	170346	Momentary Start Switch	2
17		71-73-0002	Tower Harness	1
18		N#8-32K	8-32-UNC Keps Nut	3
19		91-72-0012	Relay, 12V DC SPDT	1
20		B#8-3204A	#8-32NC x 1 in. Socket Head Cap Screw	3
21		170275	Circuit Breaker, 15 AMP Auto Reset	1
NOT SHOWN				
		410-45-087	Key, Ignition	1
KITS AND MARKERS				
▲		020886	Momentary Switch and Boot Assembly	

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

STROBE LIGHT

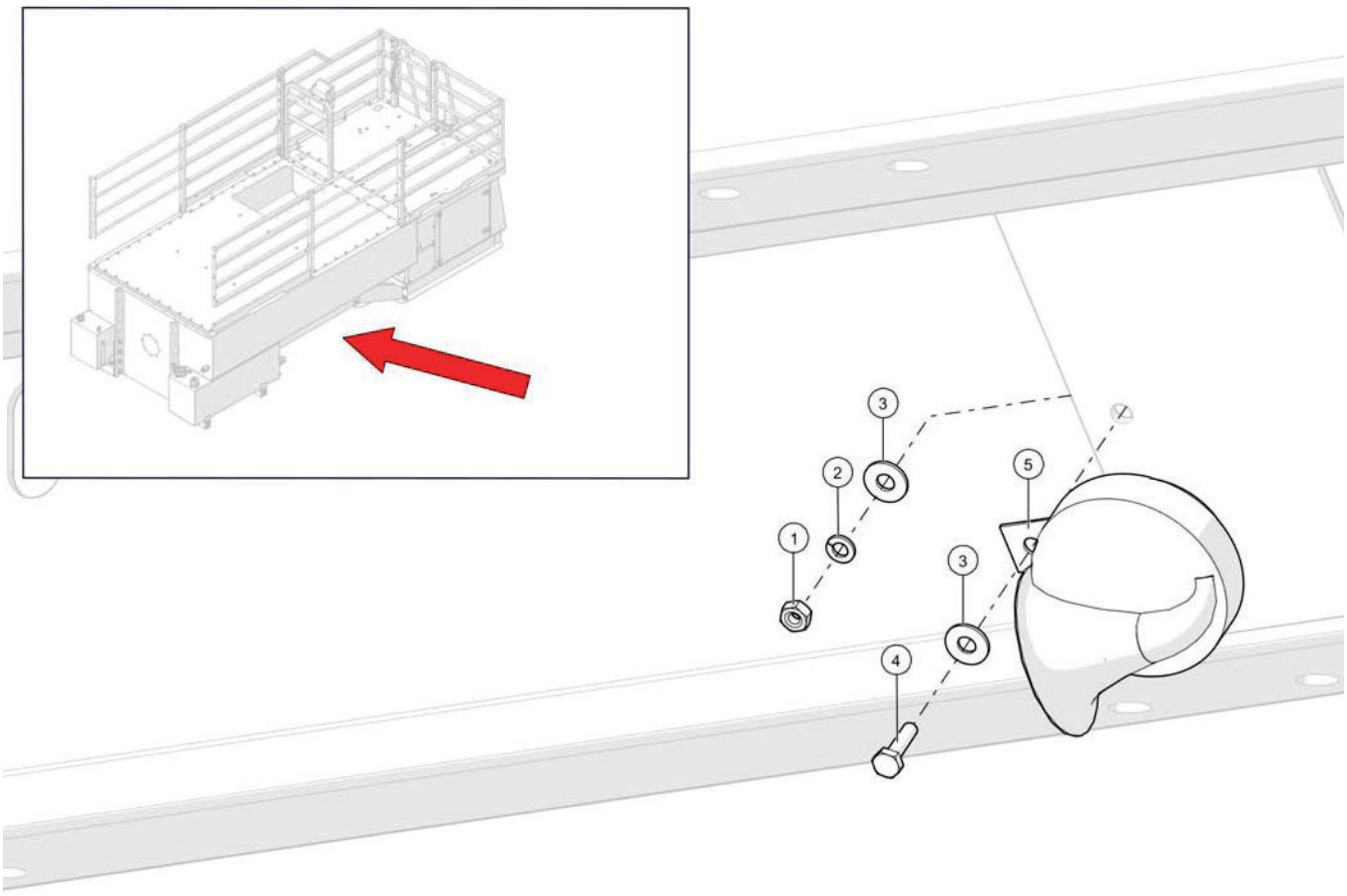
Ref. No.	Part Number	Description	No. Req'd
1	N06-16H-8	3/8-16NC Hex Nut, Grade 8	2
2	W06L	3/8 in. Lock Washer MAGNI 501	2
3	W06F	3/8 in. Flat Washer	4
4	B#10-2404B	10-24NC x 1 in. Button Head Allen	3
5	91-35-0001	Strobe LED Yellow	1
6	71-33-0018	Strobe Light Mount Weldment	1
7	N#10-24K	10-24-UNC Keps Nut	3
8	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HORN

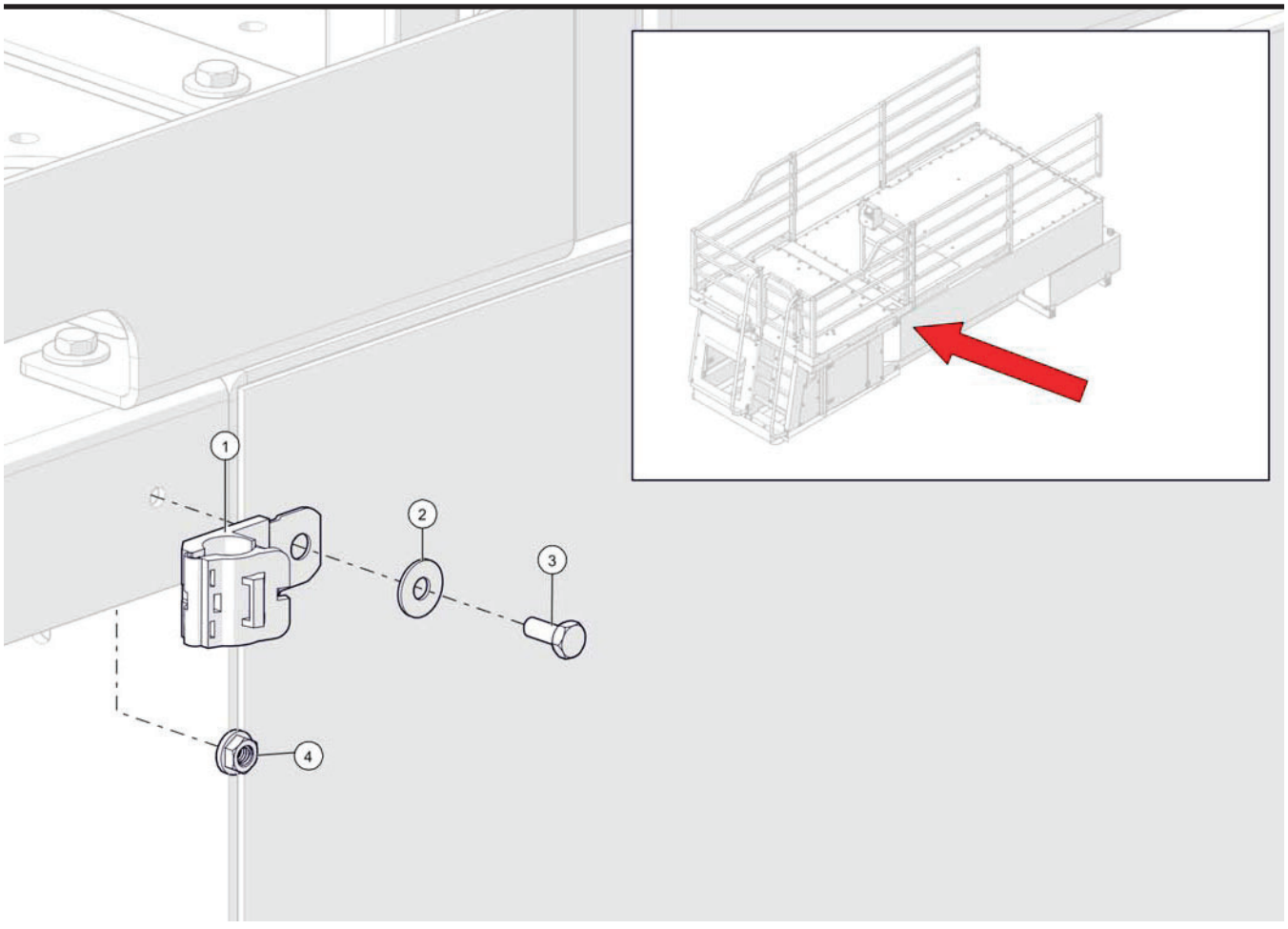
Ref. No.	Part Number	Description	No. Req'd
1	N04-20-8	1/4-20 Nut	1
2	W04L	1/4 in. Lock Washer	1
3	W04F	1/4 in. Flat Washer	2
4	B04-2004-8	1/4-20 NC x 1 in. Long, Grade 8	1
5	410-75-006	Horn Low Pitch 12V	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TOWER HARNESS CLAMP

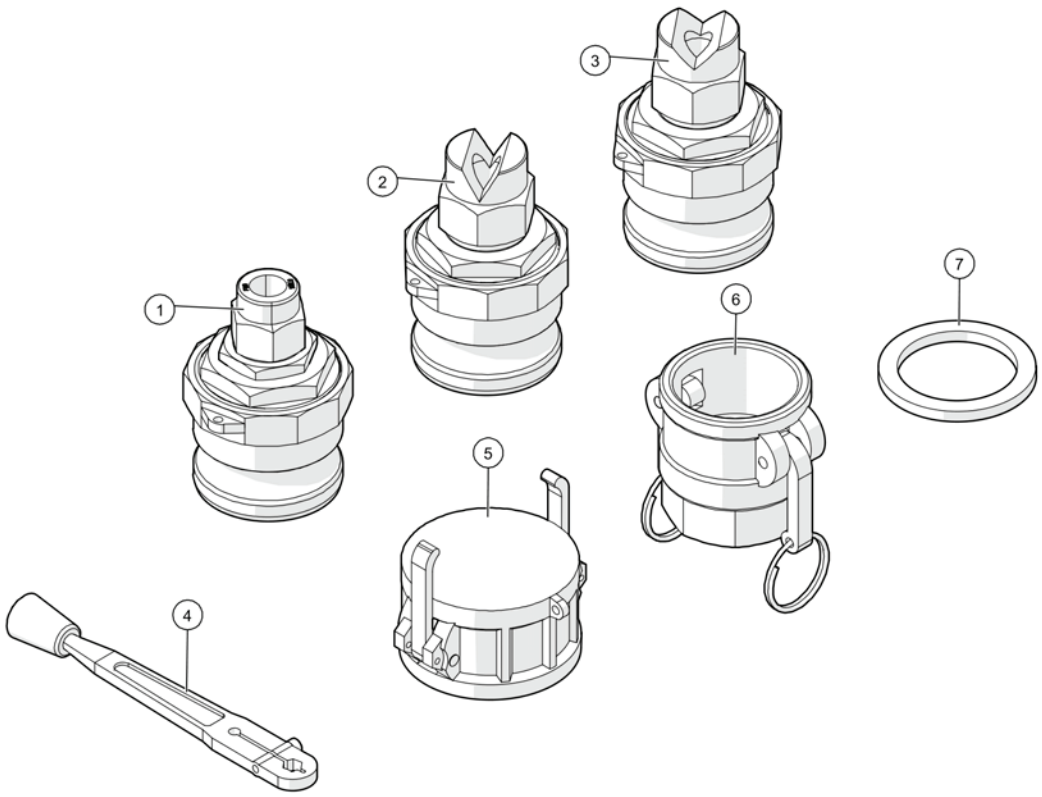
Ref. No.	Part Number	Description	No. Req'd
1	71-75-0005	Ratchet P-Clamp	1
2	W05F	5/16 in. Flat Washer	1
3	B05-1803-8	5/16-18NC x 3/4 in. Hex Head Cap Screw, Grade 8	1
4	N05-18SF	5/16-18 Serrated Hex Flange Nut, Zinc	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TOOL KIT

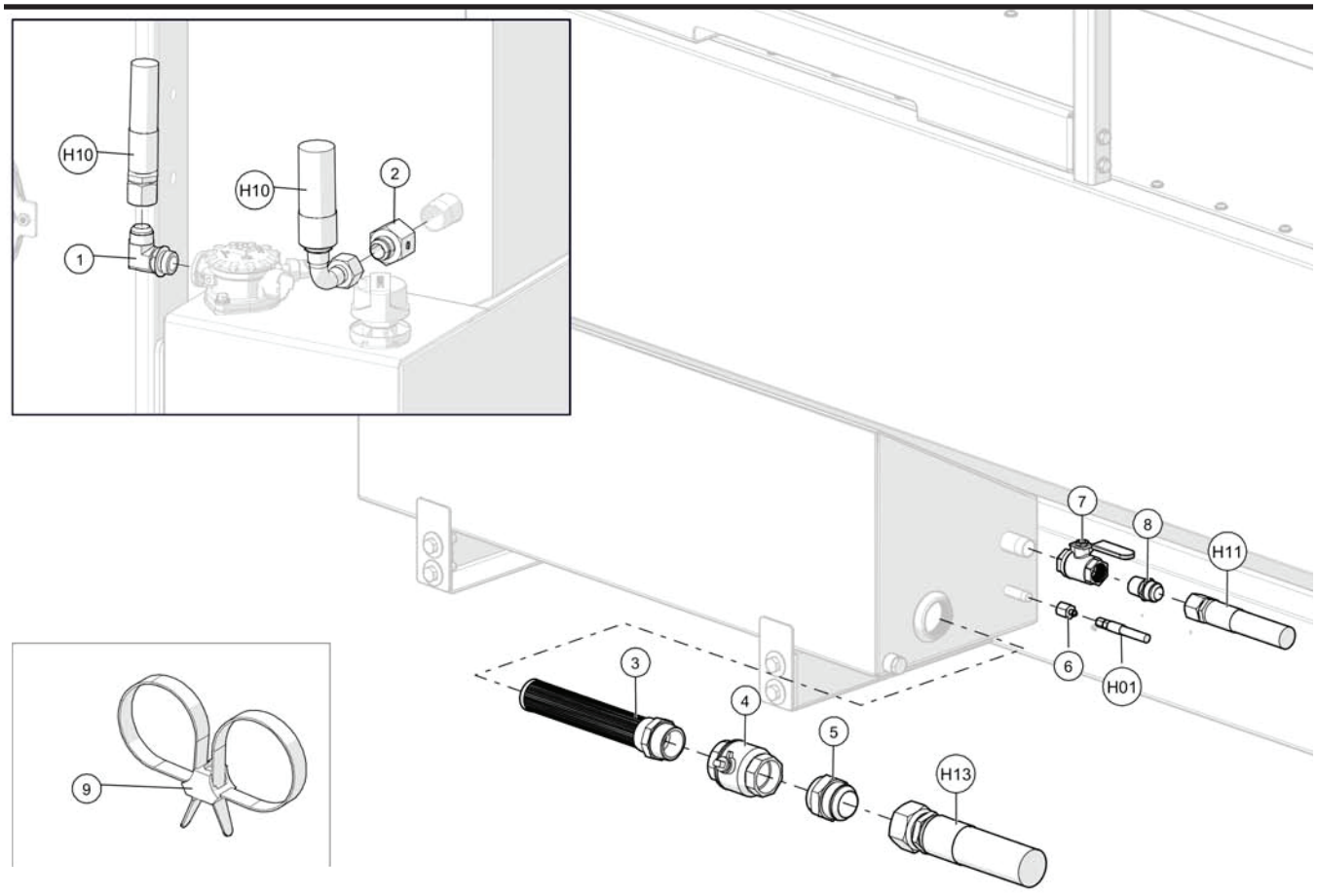
Ref. No.	Part Number	Description	No. Req'd
1	71-40-0014	2-1/2 in. 100 GPM Long Distance Nozzle Assembly	1
2	71-40-0006	2-1/2 in. 50° 100 GPM Nozzle Assembly	1
3	71-40-0015	2-1/2 in. 15° 100 GPM Nozzle Assembly	1
4	71-65-0030	Valve Handle	1
5	71-45-0031	2-1/2 in. Aluminum Camlock Dust Cap	1
6	71-45-0039	2 in. Part D Aluminum Camlock	1
7	91-45-0130	2-1/2 in. BUNA Camlock Gasket	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HYDRAULIC TANK HOSES

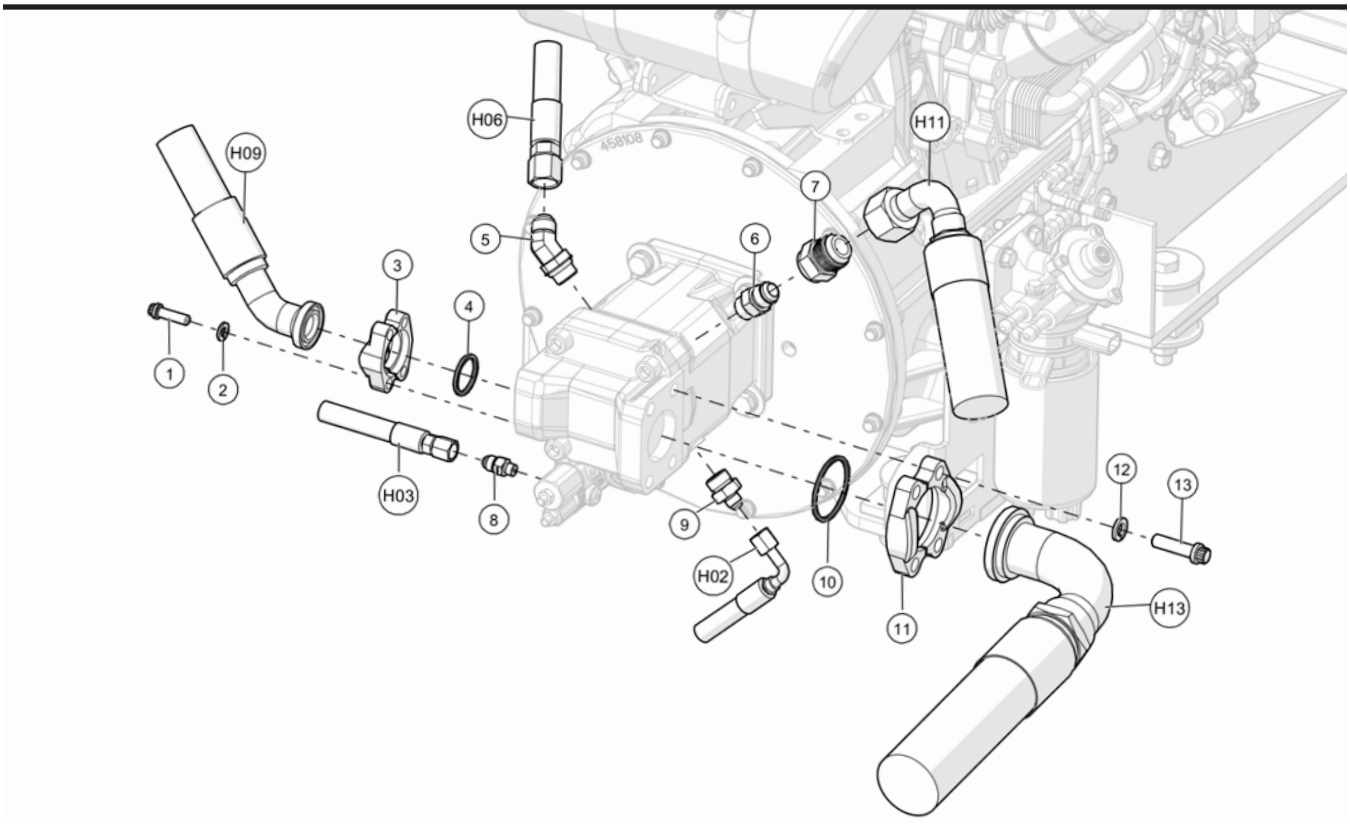
Ref. No.	Part Number	Description	No. Req'd
H01	H04E130SJSJ	1/4 in. G2X130 #4JIC Female Swivel	1
H10	H16J039SJSN-270	1 in. M500X39JIC to 90 JIC FS	1
H11	H16J085SJSN	1 in. M500X85 #16JICSWST to #16FJXSW90°	1
H13	H32T078SJSG	2 in. GMVX78 #32 JIC Female Swivel to 90° CD61FL	1
1	HFA3405-16	#16 MJIC to #16 SAE ORB 90° Elbow	1
2	HF2405-16-20	#16MJIC to 1-1/4 in. FNPT Adapter	1
3	71-65-0011	Suction Strainer, 2 in. MNPT	1
4	012287	Ball Valve, 2 in. Brass	1
5	HF3105-32	#32 MJIC x #32 MNPT	1
6	HF2405-4-6	#4MJIC to 3/8 in. FNPT Adapter	1
7	61-45-0007	Valve, 1 in. Full Port Brass	1
8	HF3105-16-16	#16 JIC to 1 in. MNPT Adapter	1
9	71-75-0004	Dual Clamp Tie	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

DRIVE PUMP HOSES

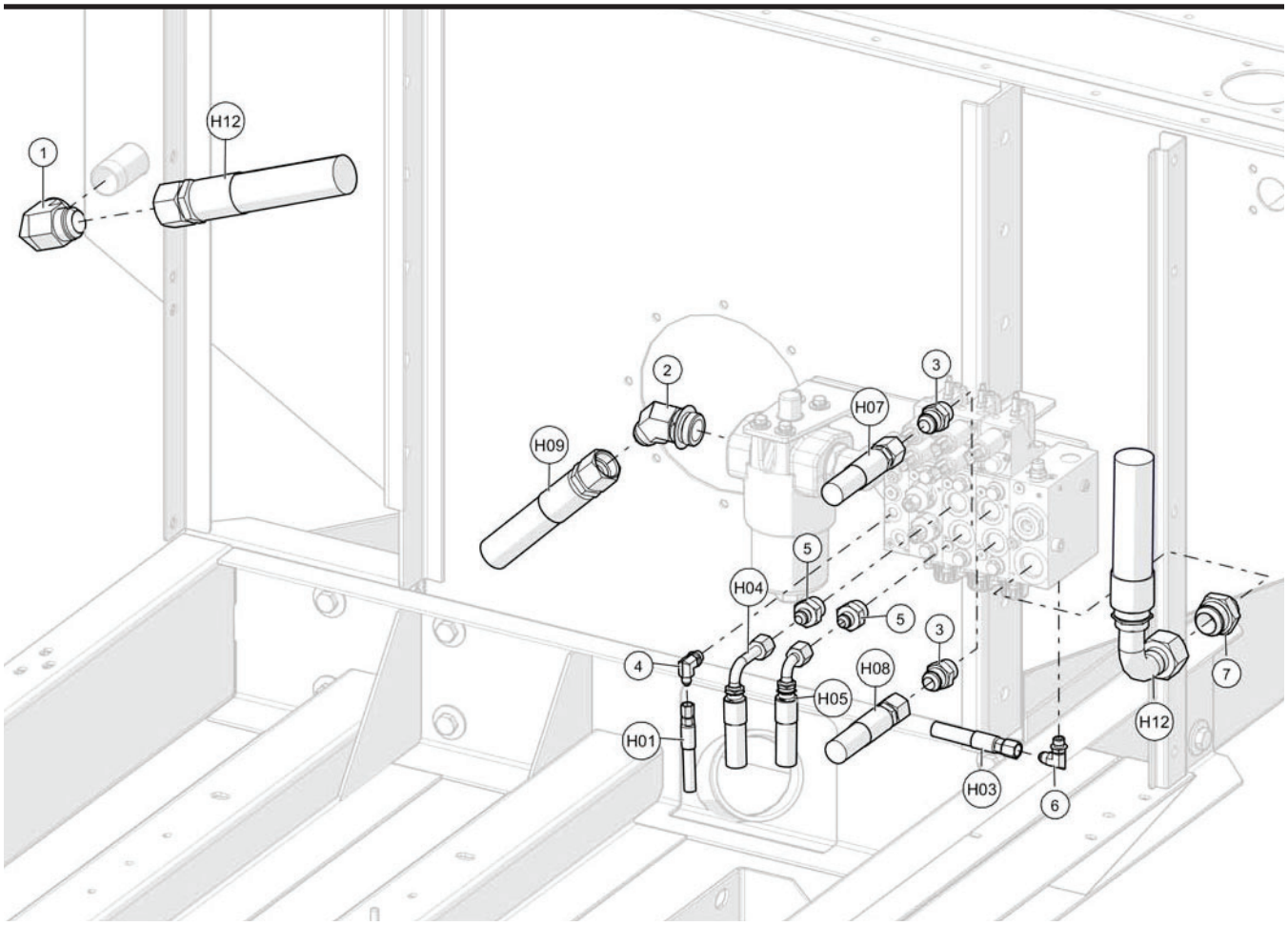
Ref. No.	Part Number	Description	No. Req'd
H02	H06E027SJSN	3/8 in. G2X27 #6 JIC to 90 JIC FS	1
H03	H06E037SJSJ	3/8 in. G2X37 #6 JIC ST	1
H06	H10J047SJSK	5/8 in. GX47 #10JICFMSWST to #10JFMSW45	1
H09	H16C019SJSD	1 in. EFG6KX19L in. #16JICFEM to #16CODE 61 x 45	1
H11	H16J085SJSN	1 in. M500X85 #16JICSWST to #16FJXSW90°	1
H13	H32T078SJSG	2 in. GMVX78 #32 JIC FEM SW to 90°CD61FL	1
1	B06-1605L-8	3/8-16 x 1-1/4 in. 12 Point HD Grade 8	4
2	W06L	3/8 in. Lock Washer MAGNI 501	4
3	HF16SF-2	1 in. CODE 61 Split Flange Half	2
4	181040	O-RING #16 SPLIT FLANG VITON 1.296	1
5	HFA3355-10	#10 O-Ring x #10 MJIC 45° Elbow	1
6	HFA3105-10	#10 MJIC to #10 SAE ORB Straight	1
7	HF2406-10-16	#10 FJIC to #16 MJIC Adapter	1
8	HFA3105-6-4	#6 MJIC to #4 SAE ORB Straight	1
9	HFA3105-6-10	#6 MJIC to #10 SAE ORB Straight	1
10	181034	O-Ring #32 Split Flange VITON 90 DUR	1
11	HF32SF-2	2 in. CODE 61 Split Flange Half	2
12	W08L	1/2 in. Lock Washer MAG 501	4
13	B08-1307L-8	1/2-13NC x 1-3/4 in. 12 Point HD Grade 8	4



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

VALVE MANIFOLD HOSES AND FILTER

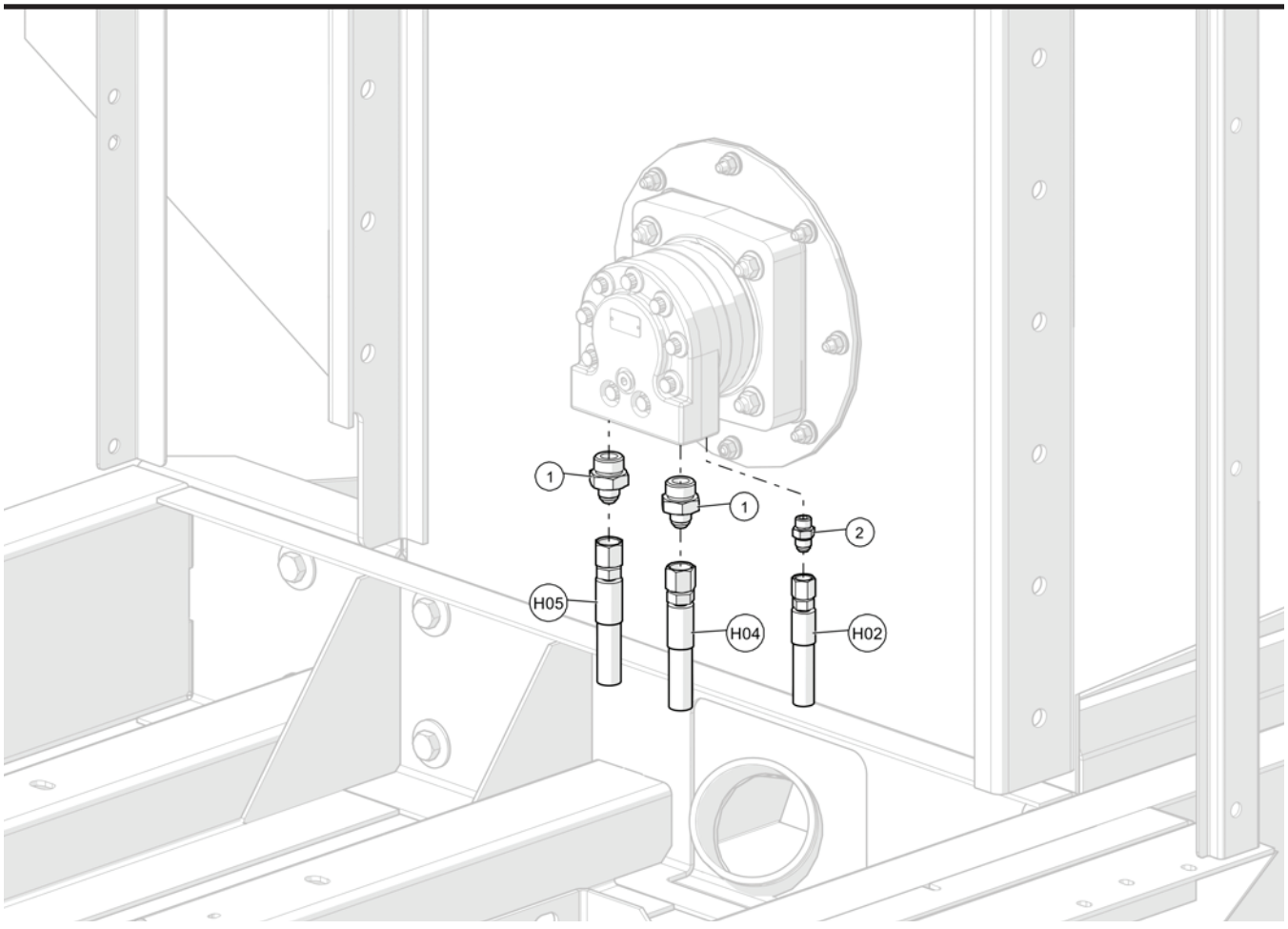
Ref. No.	Part Number	Description	No. Req'd
H01	H04E130SJSJ	1/4 in. G2X130 #4JIC Female Swivel	1
H03	H06E037SJSJ	3/8 in. G2X37 #6JIC Straight	1
H04	H08E038SJSL	1/2 in. G2X38 #8JICFEMST to #8JICFEM90L	1
H05	H08E042SJS1	1/2 in. G2X42 in. #8JICFMST to #8JICFM90S	1
H07	H12E047SJS1	3/4 in. G2X47 #12FJX to #12FJX90S	1
H08	H12E048SJSL	3/4 in. G2X48 #12 JIC to HJX90L	1
H09	H16C019SJSD	1 in. EFG6KX19L in. #16 JICFEM to #16 CODE 61 x 45	1
H12	H20T071SJSN-270	1 1/4 in. GMVX71 in. #20 FJXST to #20 FJX90MST	1
1	HF3455-20-20	#20 MJIC to 1-1/4 in. FNPT 90° Elbow	1
2	HFA3355-16-20	#16 MJIC to #20 SAE ORB 45° Elbow	1
3	HFA3105-12	#12 MJIC to #12 SAE M ORB Straight	2
4	HFA3405-4-6	#4 MJIC x #6 MORB 90° Elbow	1
5	HFA3105-8-12	#8 MJIC to #12 M SAE ORB Adapter	2
6	HFA3405-6	#6 MJIC x #6 SAE ORB 90° Elbow	1
7	HFA3105-20-16	#20 MJIC to #16 SAE ORB Adapter	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

AGITATOR MOTOR HOSES

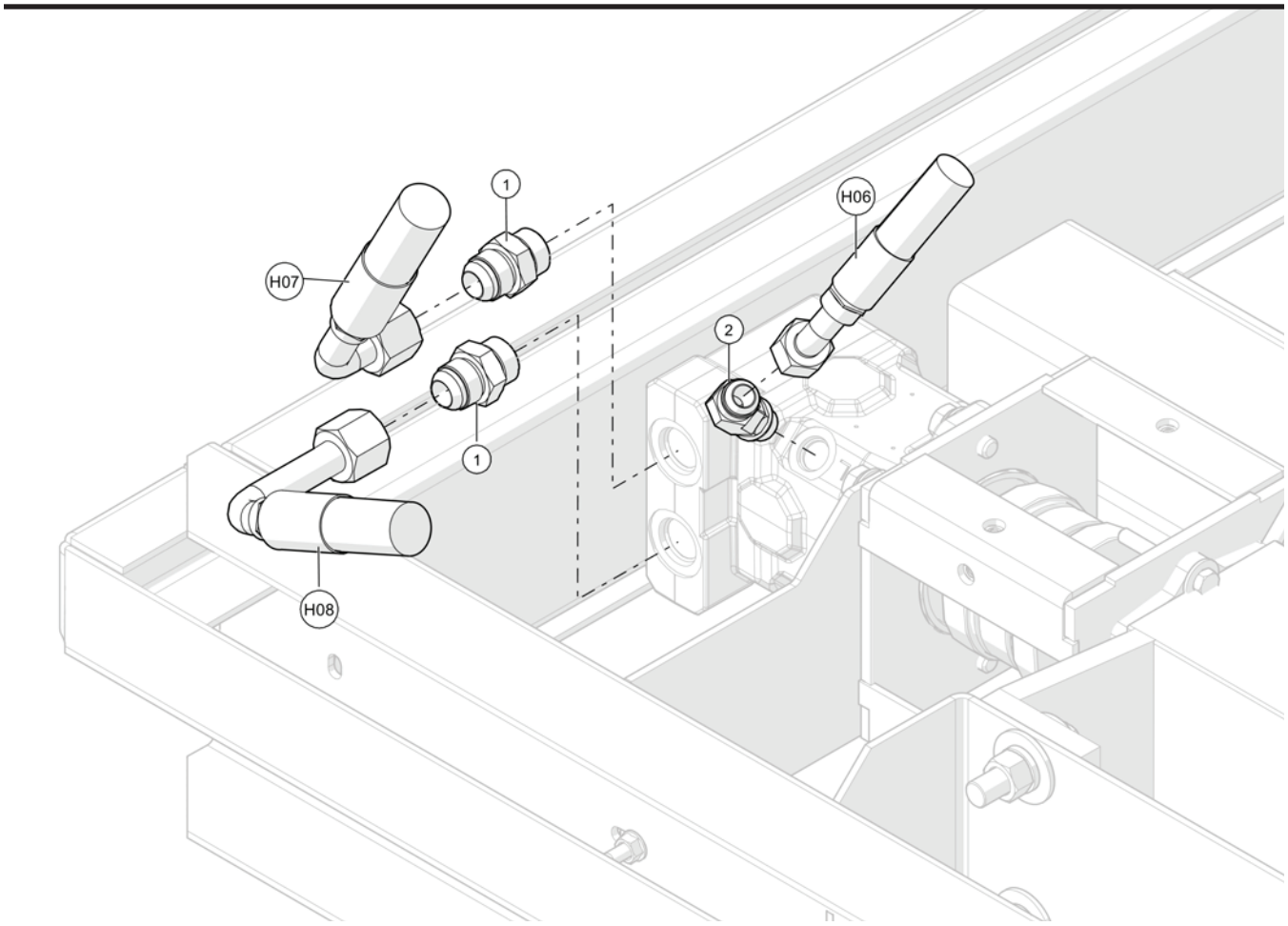
Ref. No.	Part Number	Description	No. Req'd
H02	H06E027SJSN	3/8 in. G2X27 #6JIC to 90JIC FS	1
H04	H08E038SJSL	1/2 in. G2X38 #8JICFEMST to #8JICFEM90L	1
H05	H08E042SJS1	1/2 in. G2X42 in. #8JICFMST to #8JICFM90S	1
1	HFA3105-8-12	#8 MJIC to #12 MSAE ORB Adapter	2
2	HFA3105-6	#6 MJIC to #6 SAE ORB Straight	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SLURRY PUMP MOTOR HOSES

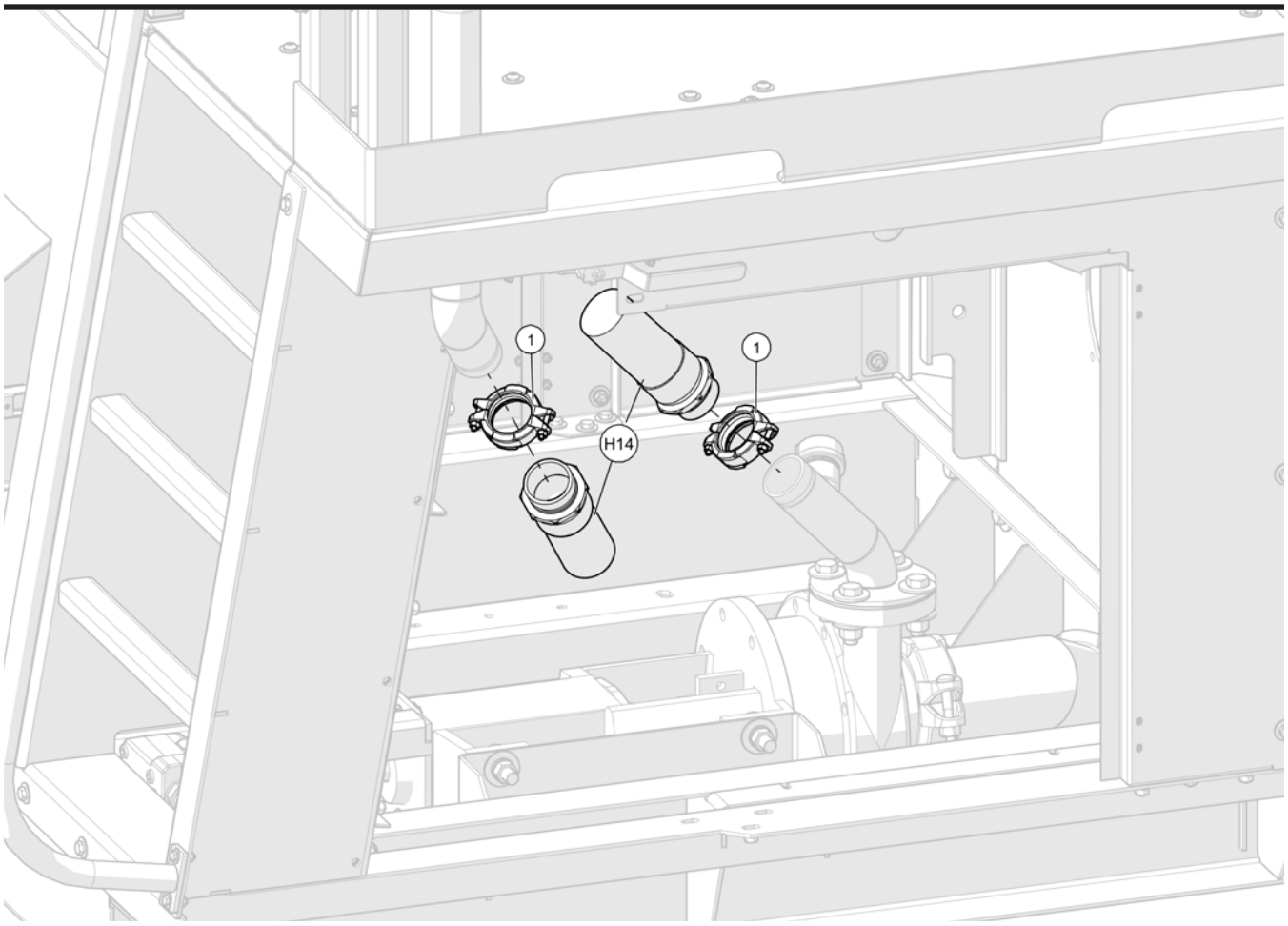
Ref. No.	Part Number	Description	No. Req'd
H06	H10J047SJSK	5/8 in. GX47 #10JICFMSWST to #10JFMSW45	1
H07	H12E047SJS1	3/4 in. G2X47 #12FJX to #12FJX90S	1
H08	H12E048SJSL	3/4 in. G2X48 #12 JIC to HJX90L	1
1	HFA3105-12	#12 MJIC to #12 SAE M ORB Straight	2
2	HFA3355-10-8	#8 O-Ring x #10 MJIC 45° Elbow	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SLURRY DISCHARGE HOSE

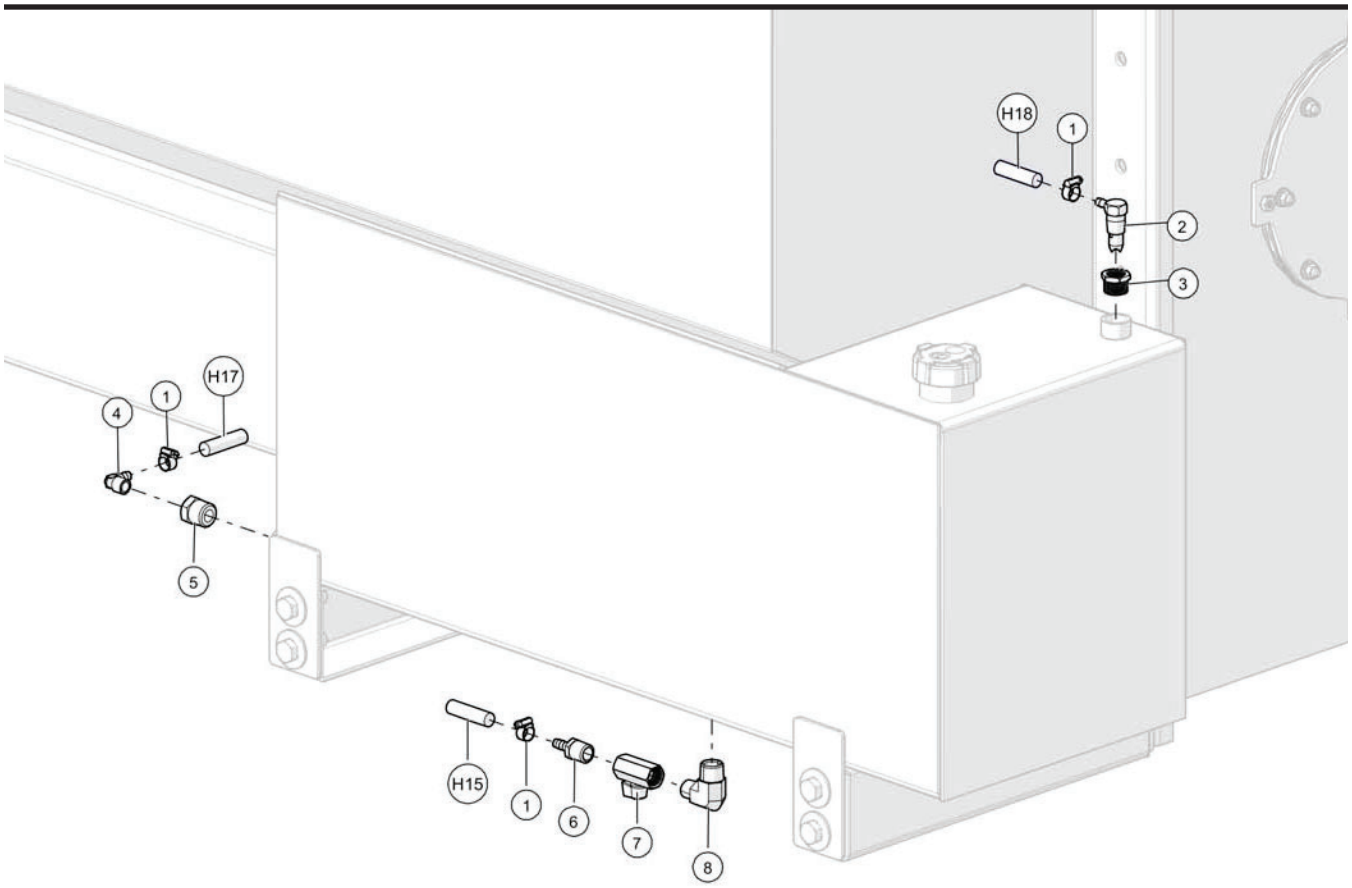
Ref. No.	Part Number	Description	No. Req'd
H14	71-45-0046	2 in. Discharge Hose	1
1	91-45-0023	Victaulic Clamp 2 in. with Gasket (GRUVLOK)	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

FUEL TANK HOSES

Ref. No.	Part Number	Description	No. Req'd
H15	190145	Hose Push On 3/8 in. 250 psi Instagrip	174
H17	190145	Hose Push On 3/8 in. 250 psi Instagrip	174
H18	190145	Hose Push On 3/8 in. 250 psi Instagrip	28
1	450-55-070	Worm Gear Hose Clamp 1/2 in.-29/32 in. SAE8	3
2	71-55-0014	Fuel Tank Vent	1
3	HF12-8HB	3/4 in. x 1/2 in. NPT Hex Bushing	1
4	71-65-0013	Fitting, Hose Barb, 3/8 NPT-M x 5/16-90	1
5	HF12-6HB	3/4 to 3/8 NPT Hex Bushing	1
6	71-65-0012	Fitting, Hose Barb, 1/2 NPT-M X 5/16	1
7	71-65-0020	1/2 in. NPTF Ball Valve	1
8	HF8-12MPE	1/2 in. MNPT x 3/4 in. MNPT 90° Elbow	1
NOT SHOWN			
	HFHG-24	Nylon Protective Sleeve, 3/4 in. Hose (162 in.)	1

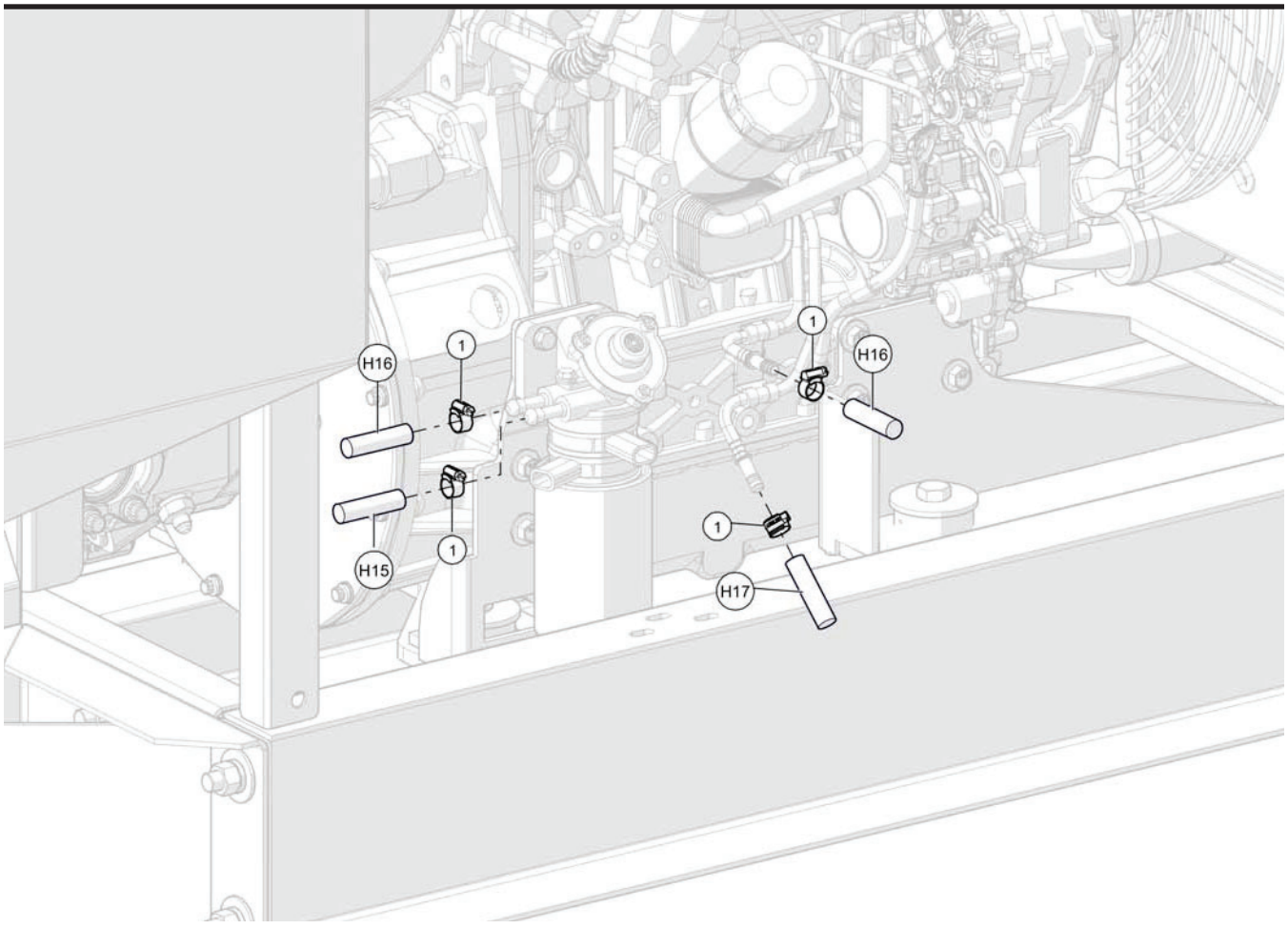


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

XA1200 OO1101

FUEL FILTER HOSES

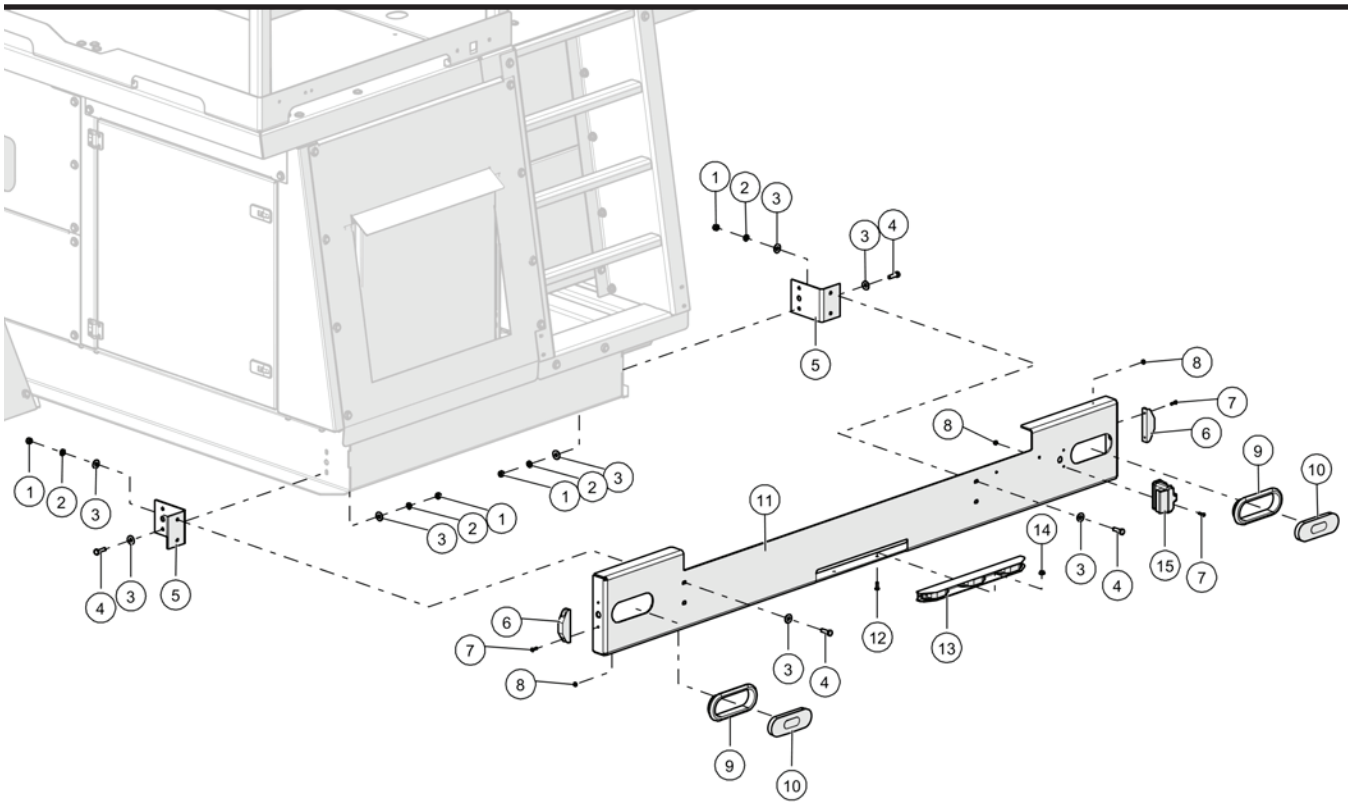
Ref. No.	Part Number	Description	No. Req'd
H15	190145	Hose Push On 3/8 in. 250 psi Instagrip	174
H16	190145	Hose Push On 3/8 in. 250 psi Instagrip	28
H17	190145	Hose Push On 3/8 in. 250 psi Instagrip	174
1	450-55-070	Worm Gear Hose Clamp 1/2 in.-29/32 in. SAE8	4
NOT SHOWN			
	HFHG-24	Nylon Protective Sleeve, 3/4 in. Hose (162 in.)	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

REAR BUMPER

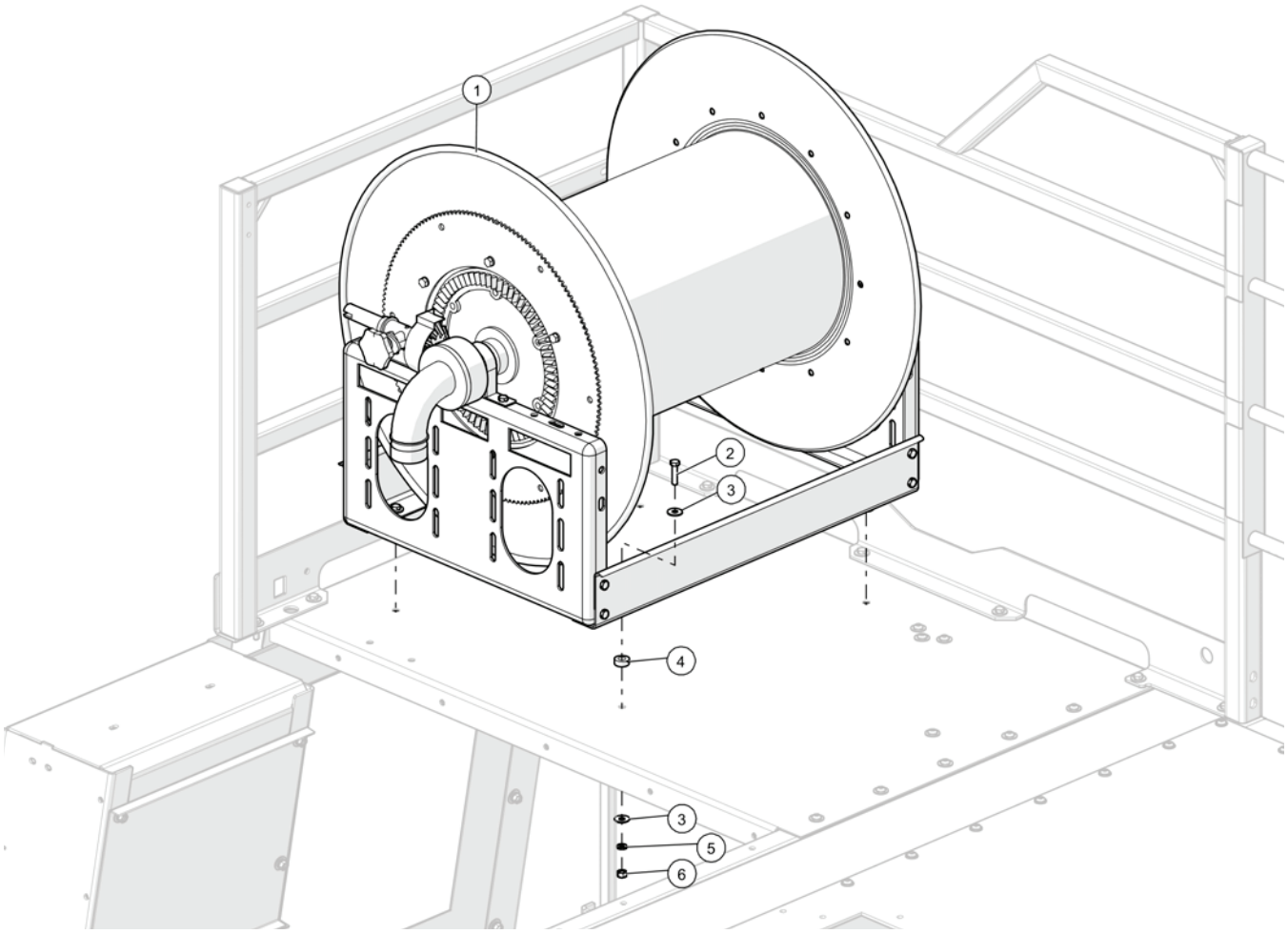
Ref. No.	Part Number	Description	No. Req'd
1	N06-16H-8	3/8-16NC Hex Nut, Grade 8	8
2	W06L	3/8 in. Lock Washer MAGNI 501	8
3	W06F	3/8 in. Flat Washer	16
4	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw	8
5	71-01-0035	Bumper Mount	2
6	91-35-0003	Corner Marker Light Led Red	2
7	B#10-2403B	10-24NC x 3/4 in. Button Head Allen	6
8	N#10-24K	10-24-UNC Keps Nut	6
9	412-35-004	Grommet for 6 in. Oval Lights	2
10	412-35-021	Oval LED Light, Red, Amp Connector	2
11	71-03-0013	Bumper Weld	1
12	B04-2003B-8	1/4-20 NC x 3/4 in. Button Head Socket Head Cap Screw	2
13	005944	Three Bar Light LED Red	1
14	N04-20SF-8	1/4-20 Serrated Flange Hex, Grade 8 Zinc	2
15	71-05-0016	LED License Light	1
NOT SHOWN			
	412-35-020	Amp Superseal Connector	4
	71-05-0027	5-Way Wishbone Connector, Male	1
	91-35-0005	Cable Marker Light	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOSE REEL ATTACHMENT

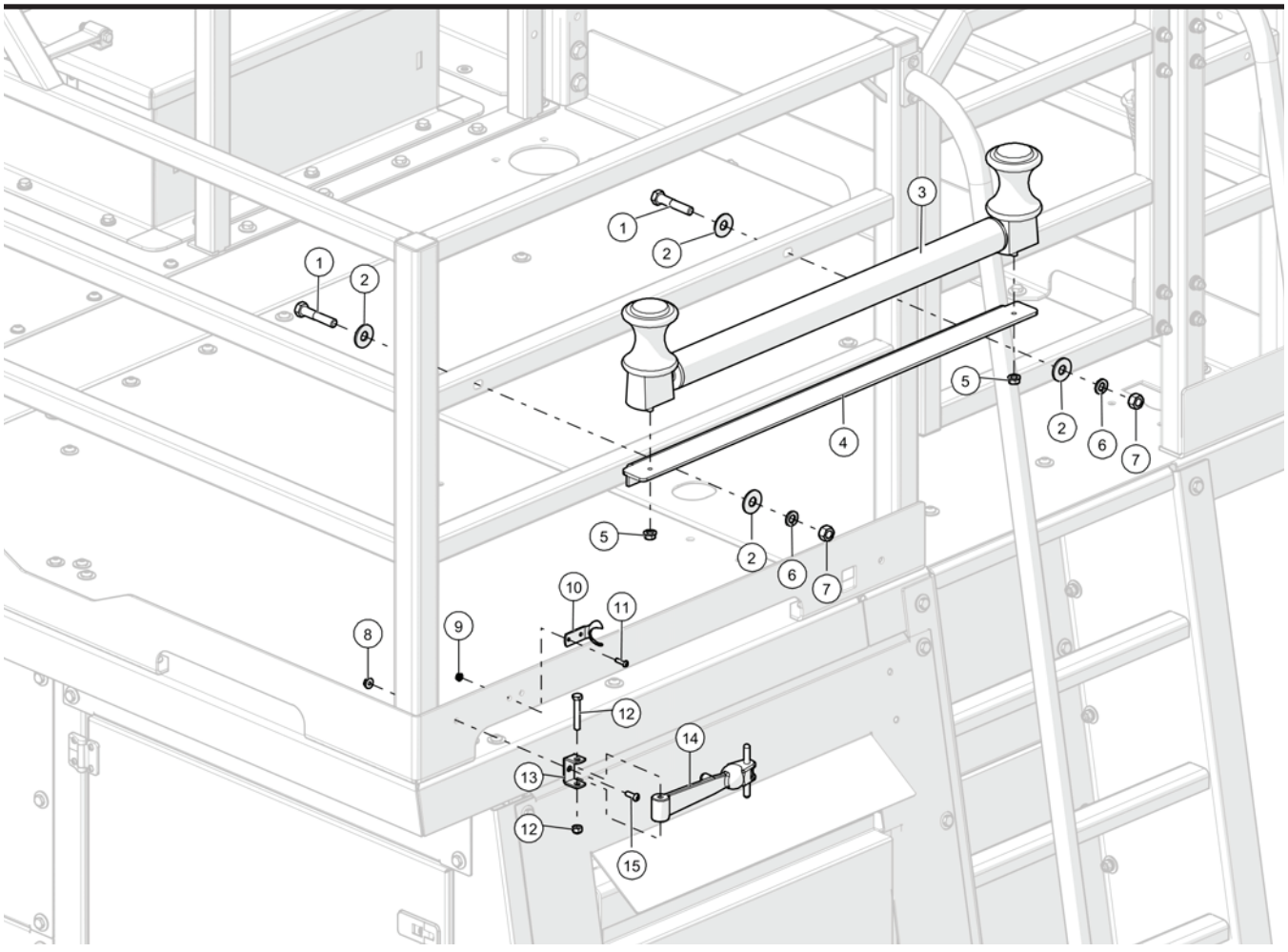
Ref. No.	Part Number	Description	No. Req'd
1	91-45-0012	Hydraulic Hose Reel	1
2	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	4
3	W06F	3/8 in. Flat Washer	8
4	91-32-0054	Spacer, UHMW 1/2 in. I.D. x 1 in. O.D., 1/4 in. Long	4
5	W06L	3/8 in. Lock Washer MAGNI 501	4
6	N06-16H-8	3/8-16NC Hex Nut, Grade 8	4



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOSE ROLLERS AND RETAINER

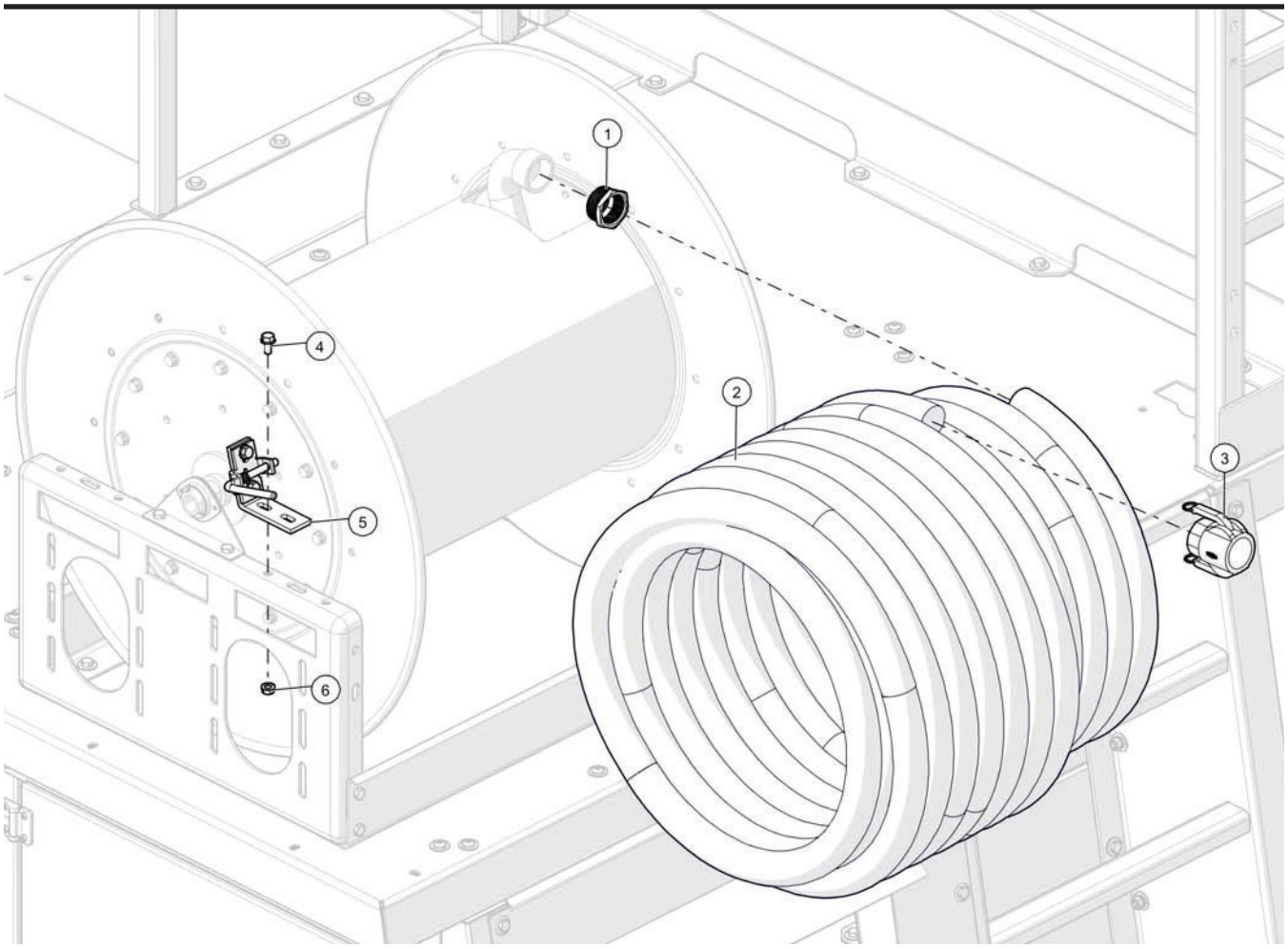
Ref. No.	Part Number	Description	No. Req'd
1	B08-1310-8	1/2-13NC x 2-1/2 in. Hex Head Cap Screw, Grade 8	2
2	W08F	1/2 in. Flat Washer	4
3	011894	Hose Roller and Spool Guide	1
4	71-31-0044	Hose Spool Mount	1
5	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	2
6	W08L	1/2 in. Lock Washer MAGNI 501	2
7	N08-13L-8	1/2-13NC Locknut, Grade 8	2
8	N04-20SF-8	1/4-20 Serrated Flange Hex, Grade 8 Zinc	1
9	N#10-24K	10-24-UNC Keps Nut	2
10	91-35-0013	Draw Latch Catch	1
11	B#10-2403B	10-24NC x 3/4 in. Button Head Allen	2
12	91-35-0012	Draw Latch Pin	1
13	91-35-0011	Draw Latch Anchor	1
14	91-35-0010	Draw Latch	1
15	B04-2003B-8	1/4-20 NC x 3/4 in. Button Head Socket Head Cap Screw	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOSE AND PIN LOCK

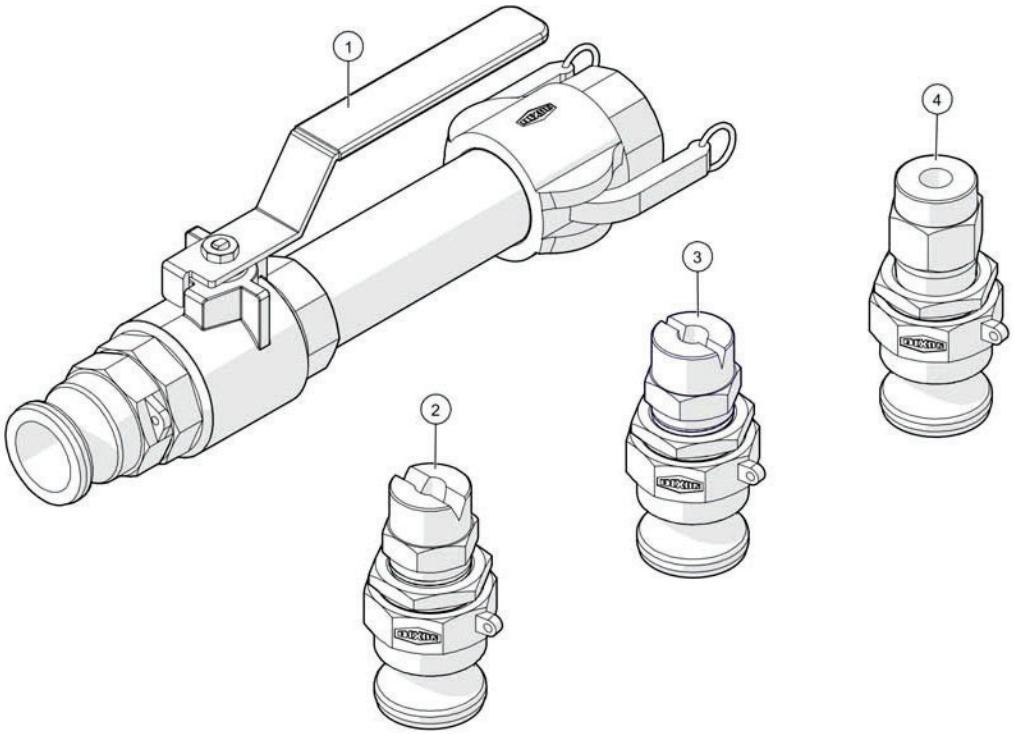
Ref. No.	Part Number	Description	No. Req'd
1	160756	Reducer Bushing 1-1/2 x 1-1/4	1
2	91-45-0009	1-1/4 in. 200 psi x 200 ft. Male Pipe	1
3	91-45-0087	CAM LOCK 1-1/4 in. Female x Female Pipe - BRA	1
4	B06-1603SF-8	3/8-16NC x 3/4 in. Long Serrated Flange, Grade 8	2
5	008433	Pin Lock Assembly	1
6	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

NOZZLE KIT

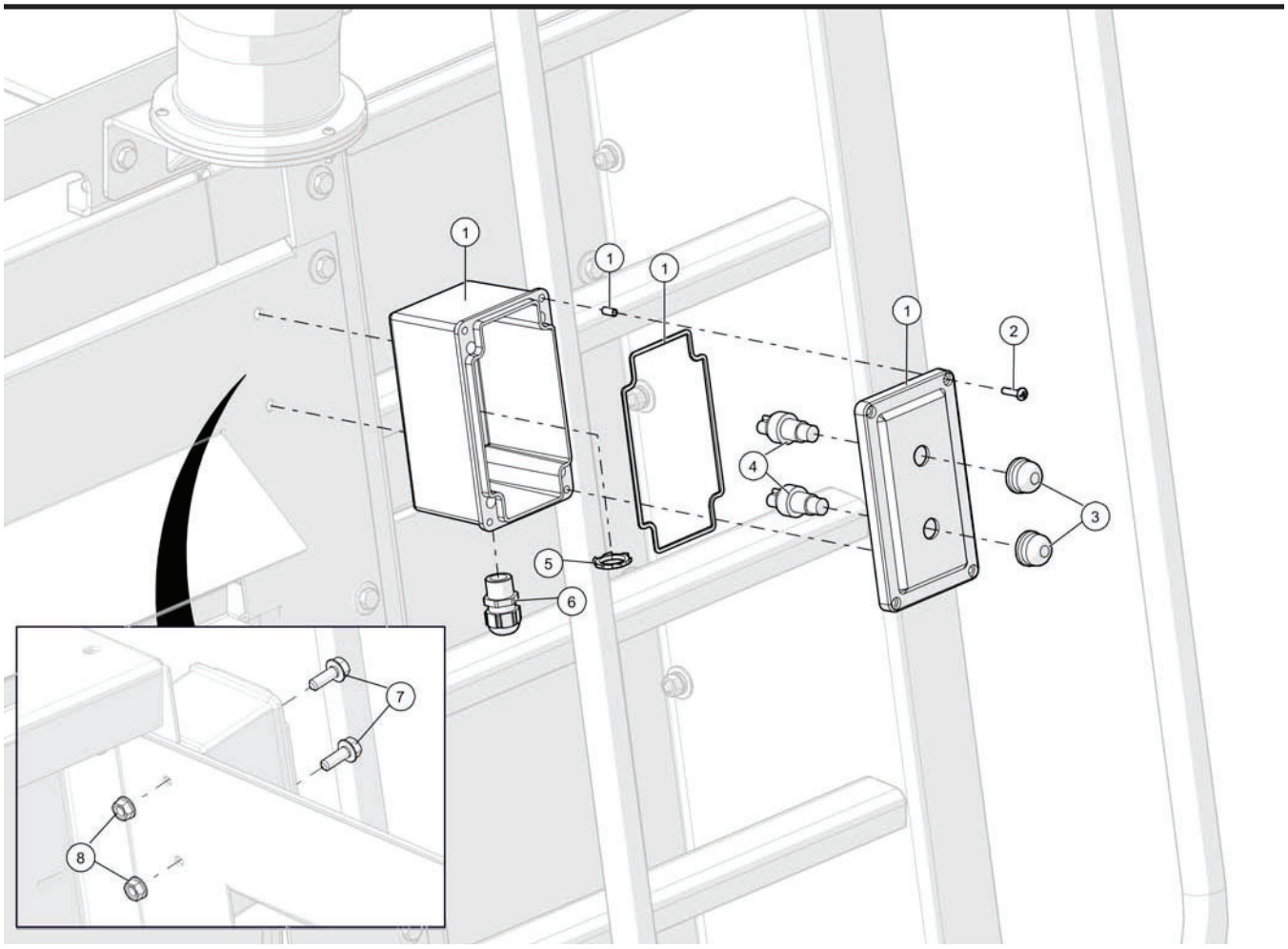
Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1	▲	91-40-0014	Remote Valve	1
2	▲	91-40-0011	50° HR Nozzle Assembly	1
3	▲	91-40-0012	25° HR Nozzle Assembly	1
4	▲	91-40-0013	Straight HR Nozzle Assembly	1
KITS AND MARKERS				
	▲	91-46-0002	HR Nozzle Kit	



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOSE REEL CONTROL BOX

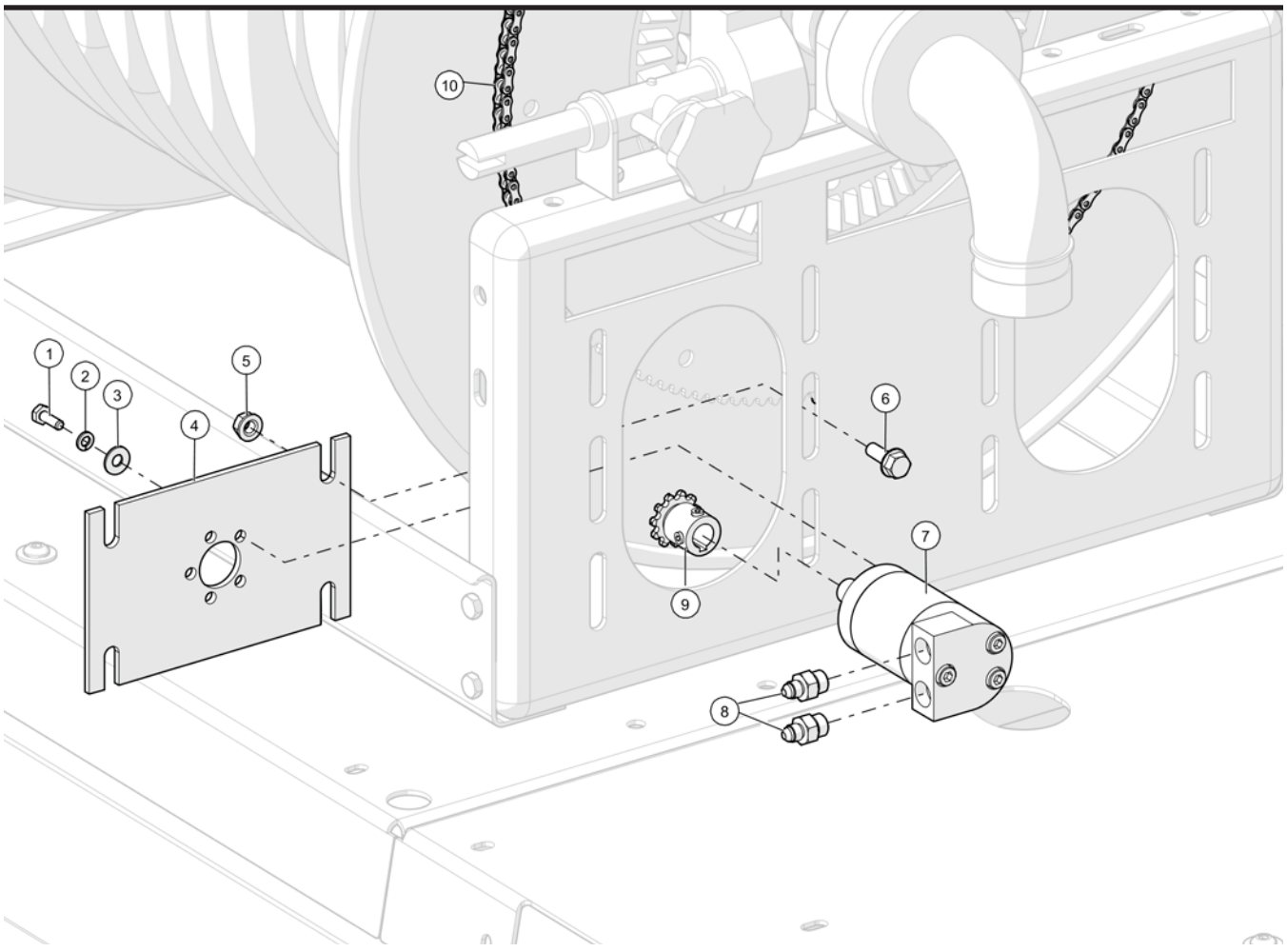
Ref. No.	Kit Ref.	Part Number	Description	No. Req'd
1		91-74-0001	Enclosure 6 x 4 x 4	1
2		B#10-2403P	10-24NC x 3/4 in. Pan Head Socket Head Cap Screw	4
3	▲	170347	Switch Boot. Black	2
4	▲	170346	Momentary Start Switch	2
5		170088	Locknut Conduit 1/2 NPT	1
6		170087	Strain Relief 1/2 NPT ~Olflex	1
7		B06-1604SF-8	3/8-16NC x 1 in. Long Serrated Flange, Grade 8	2
8		N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	2
KITS AND MARKERS				
▲		020886	Momentary Switch and Boot Assembly	



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOSE REEL MOTOR

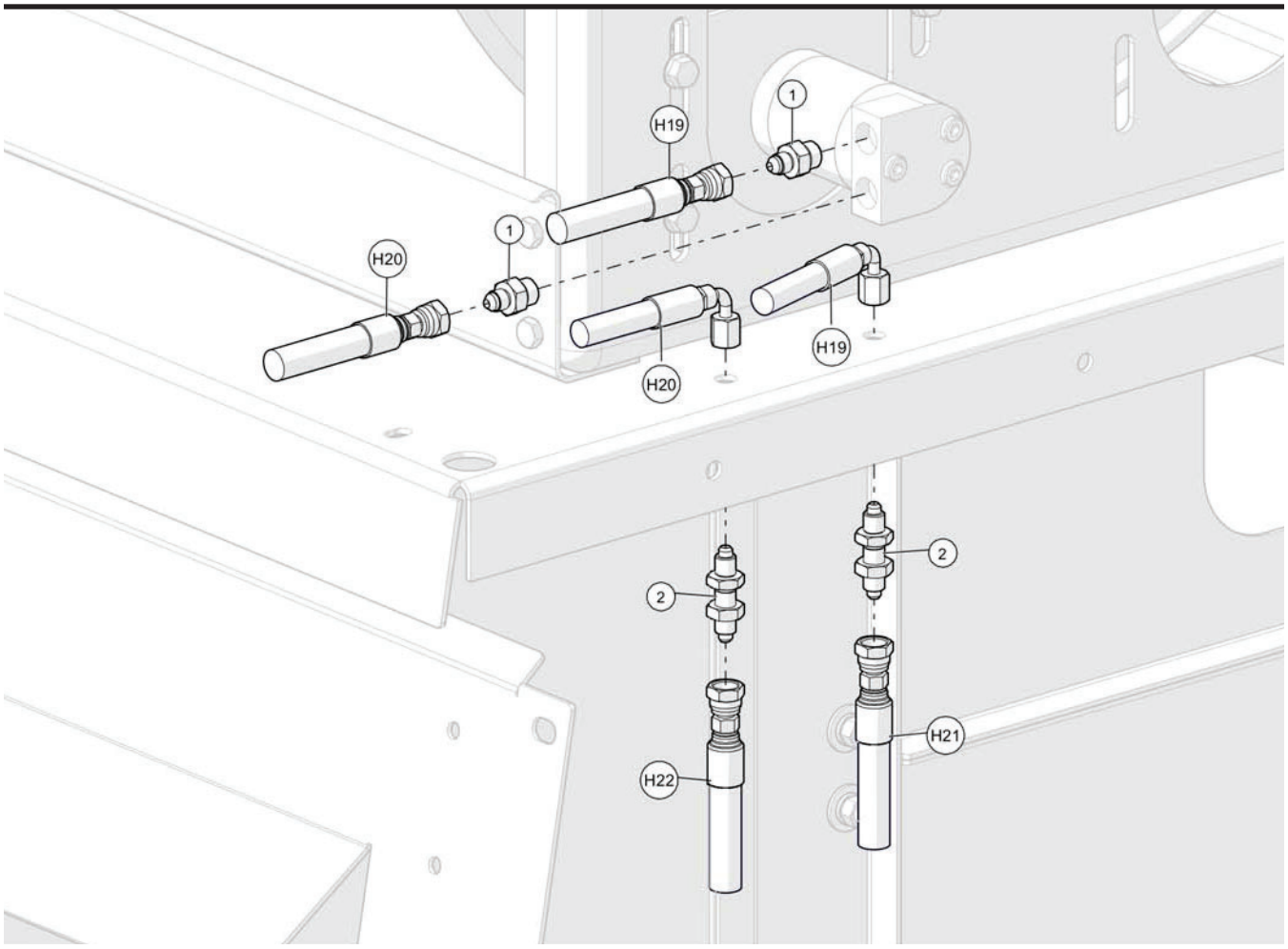
Ref. No.	Part Number	Description	No. Req'd
1	B04-2803-5	1/4-28 x 3/4 in. Long Hex Head Cap Screw	3
2	W04L	1/4 in. Lock Washer	3
3	W04F	1/4 in. Flat Washer	3
4	91-43-0069	Hose Reel Motor Plate	1
5	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	4
6	B06-1604SF-8	3/8-16NC x 1 in. Long Serrated Flange, Grade 8	4
7	71-65-0023	Hose Reel Motor - YPT	1
8	HFA3105-4-6	#4 MJIC to #6 SAE ORB Straight	2
9	91-45-0156	Hose Reel Motor Sprocket for HD7534	1
10	008200	Hose Reel Chain for HD7534	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOSE REEL MOTOR TO PLATFORM BULKHEAD HOSES

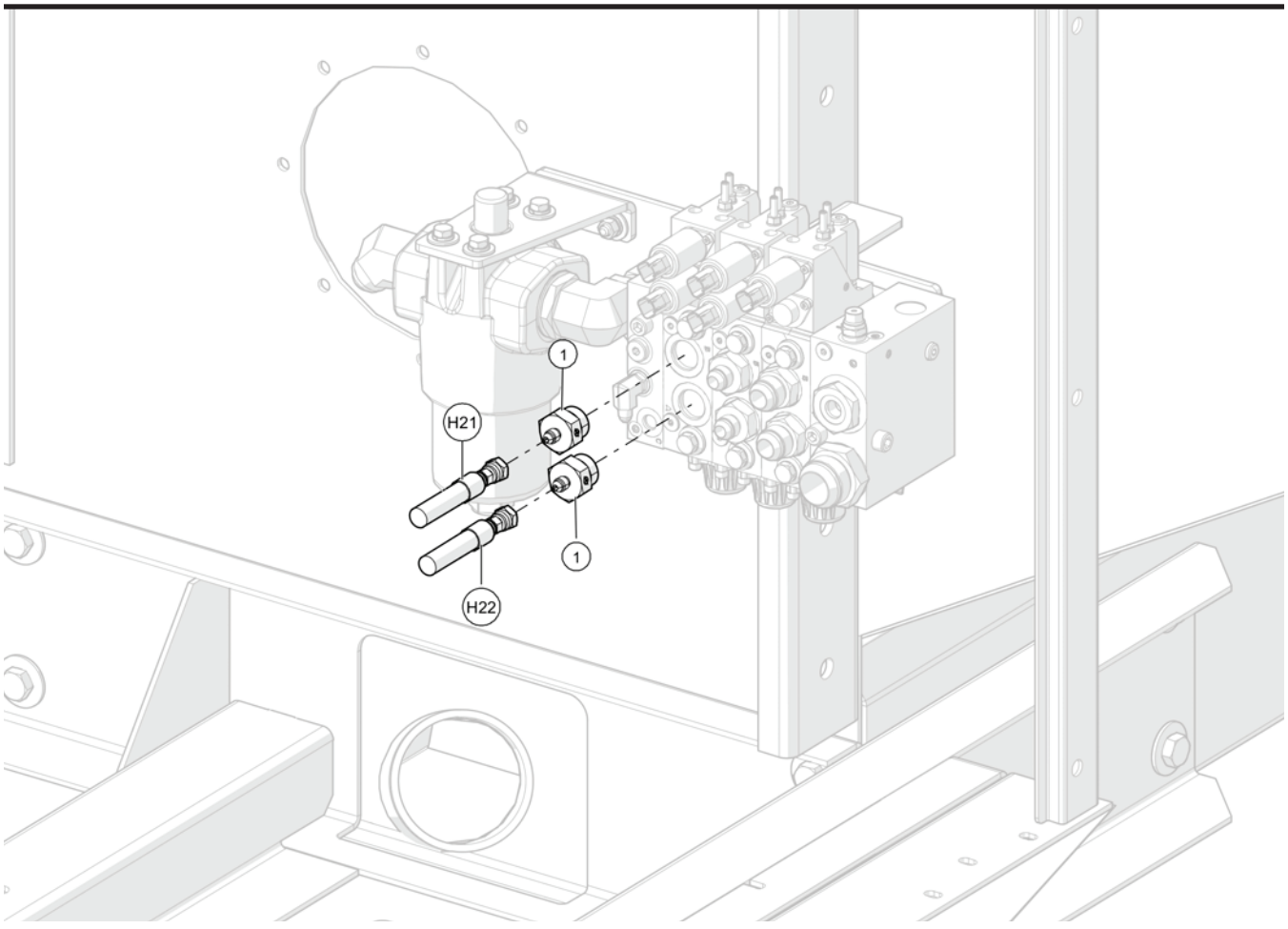
Ref. No.	Part Number	Description	No. Req'd
H19	H04E013SJSN-90	1/4 in. G2X13 #4 JIC Female Swivel to MDDP90°	1
H20	H04E015SJSN	1/4 in. G2X15 #4 JIC Female Swivel to MDDP90°	1
H21	H04E051SJSJ	1/4 in. G2X51 #4 JIC Female Swivel	1
H22	H04E051SJSJ	1/4 in. G2X51 #4 JIC Female Swivel	1
1	HFA3105-4-6	#4 MJIC to #6 SAE ORB Straight	2
2	HF3905-4	#4 MJIC Bulkhead Union Adapter with Nut	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

VALVE MANIFOLD HOSE REEL

Ref. No.	Part Number	Description	No. Req'd
H21	H04E051SJSJ	1/4 in. G2X51 #4 JIC Female Swivel	1
H22	H04E051SJSJ	1/4 in. G2X51 #4 JIC Female Swivel	1
1	HFA3105-4-12	#4 MJIC to #12 SAE ORB Straight	2

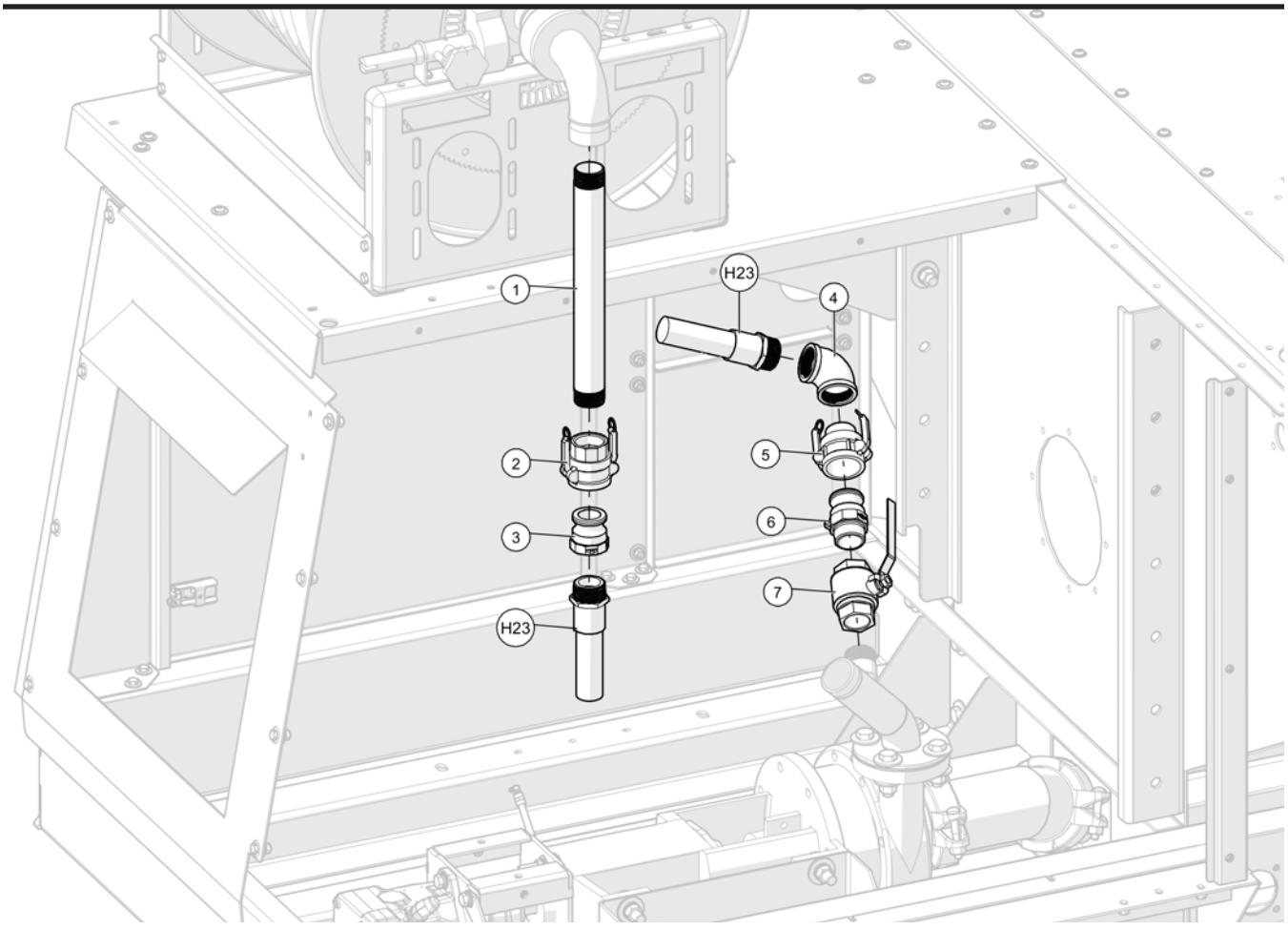


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

XA1200 OO1101

HOSE REEL SLURRY DISCHARGE

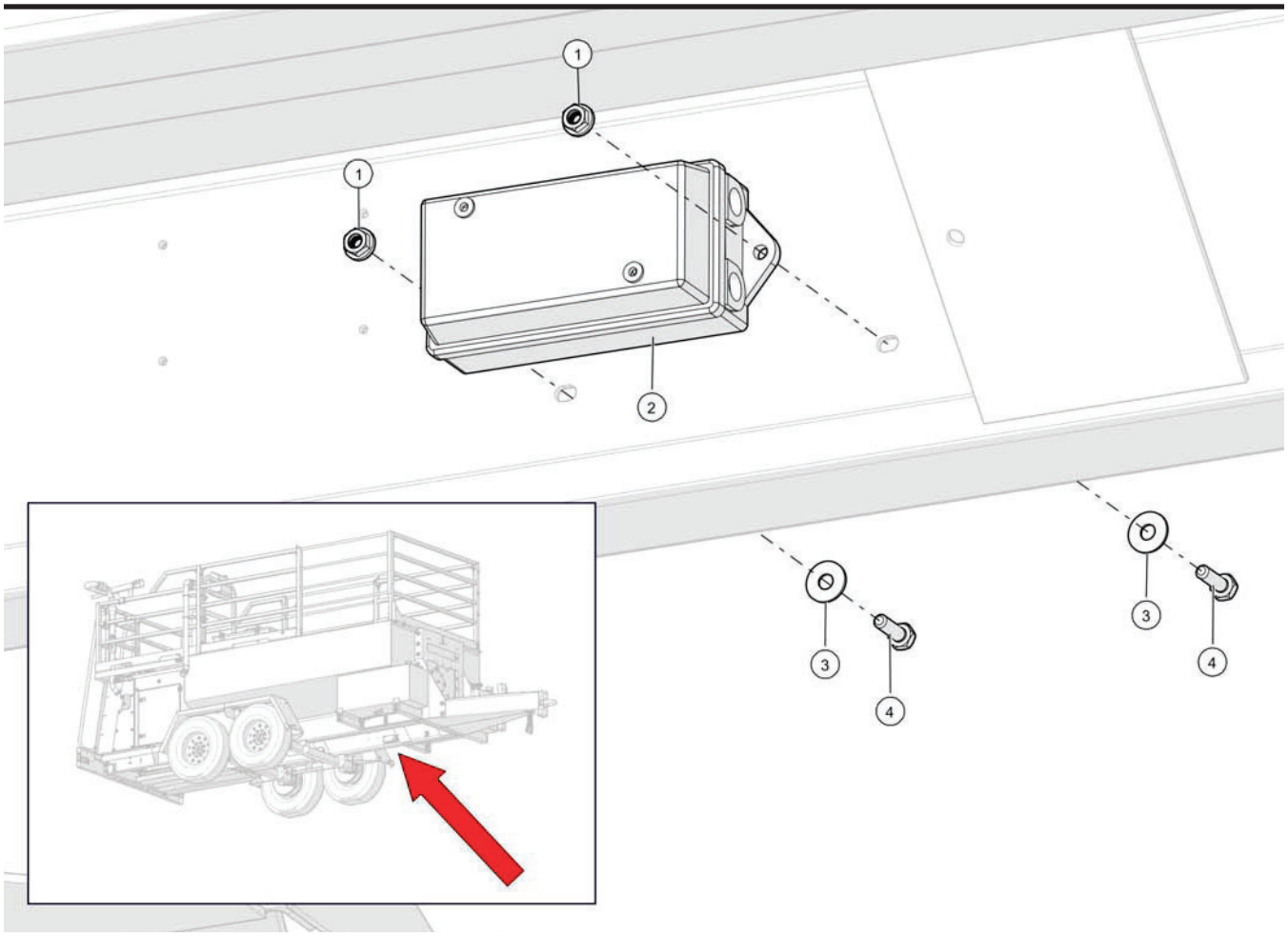
Ref. No.	Part Number	Description	No. Req'd
H23	61-45-0022	Hose, 1-1/2 in. GY Horizon x 32 in. OAL NPTMBE	1
1	71-45-0048	1-1/2 in. SCHD 40 Nipple x 16 in. Long	1
2	91-45-0094	CAM LOCK 1-1/2 in. Female x Female Pipe, Brass	1
3	91-45-0090	CAM LOCK 1-1/2 in. Male x Female Pipe, Brass	1
4	160014	Elbow 1-1/2 in. 90° 150# MI	1
5	91-45-0091	CAM LOCK 1-1/2 in. Female x Male Pipe, Brass	1
6	91-45-0095	CAM LOCK 1-1/2 in. Male x Male Pipe, Brass T	1
7	007710	Valve, 1-1/2 in. IPS Full Port Ball	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

JUNCTION BOX - SLURRY TANK

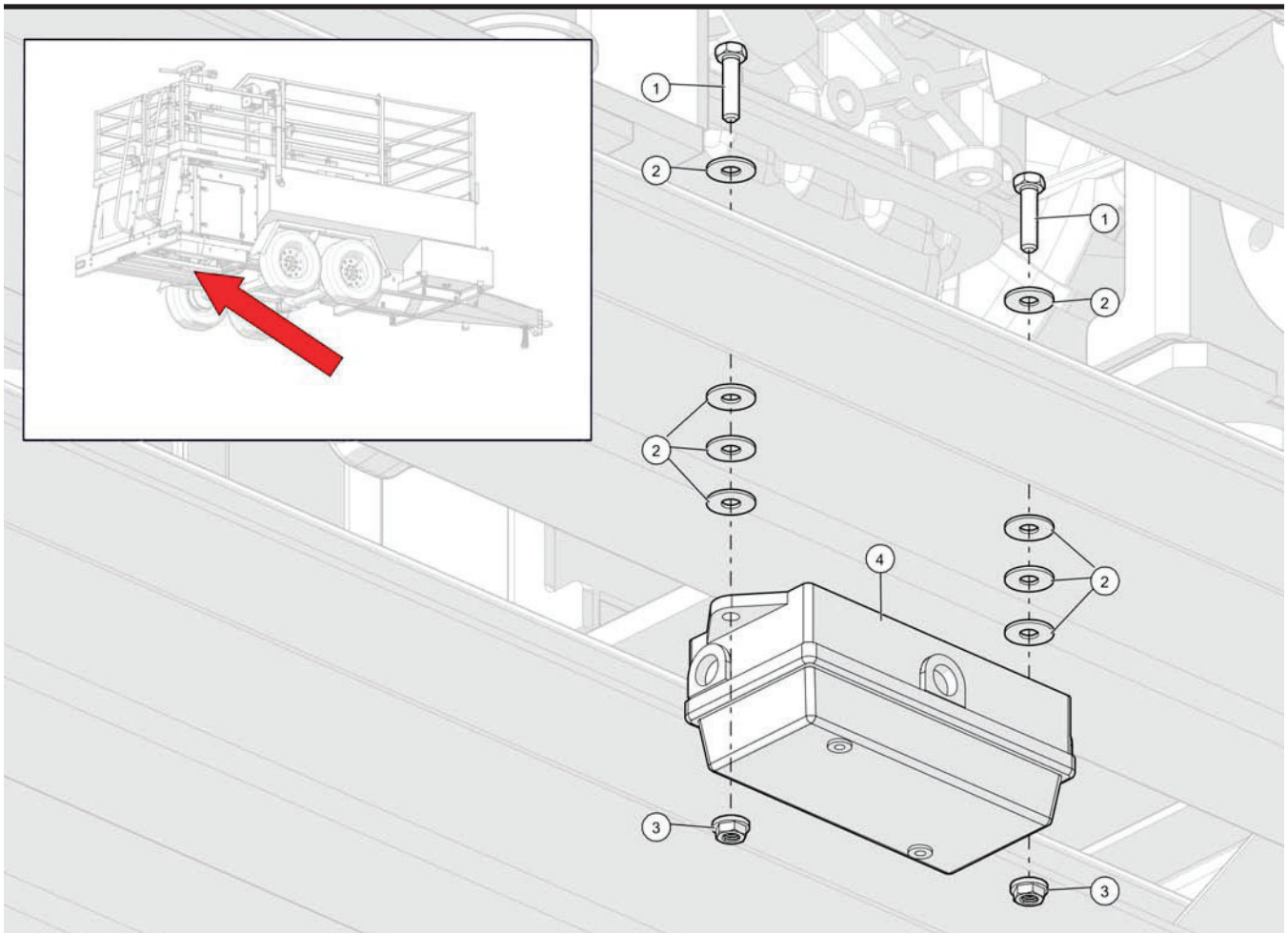
Ref. No.	Part Number	Description	No. Req'd
1	N05-18SF	5/16-18 Serrated Hex Flange Nut, Zinc	2
2	71-05-0007	Junction Box	1
3	W05F	5/16 in. Flat Washer	2
4	B05-1804-8	5/16-18NC x 1 Hex Head Cap Screw, Grade 8	2



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

JUNCTION BOX - ENGINE BASE

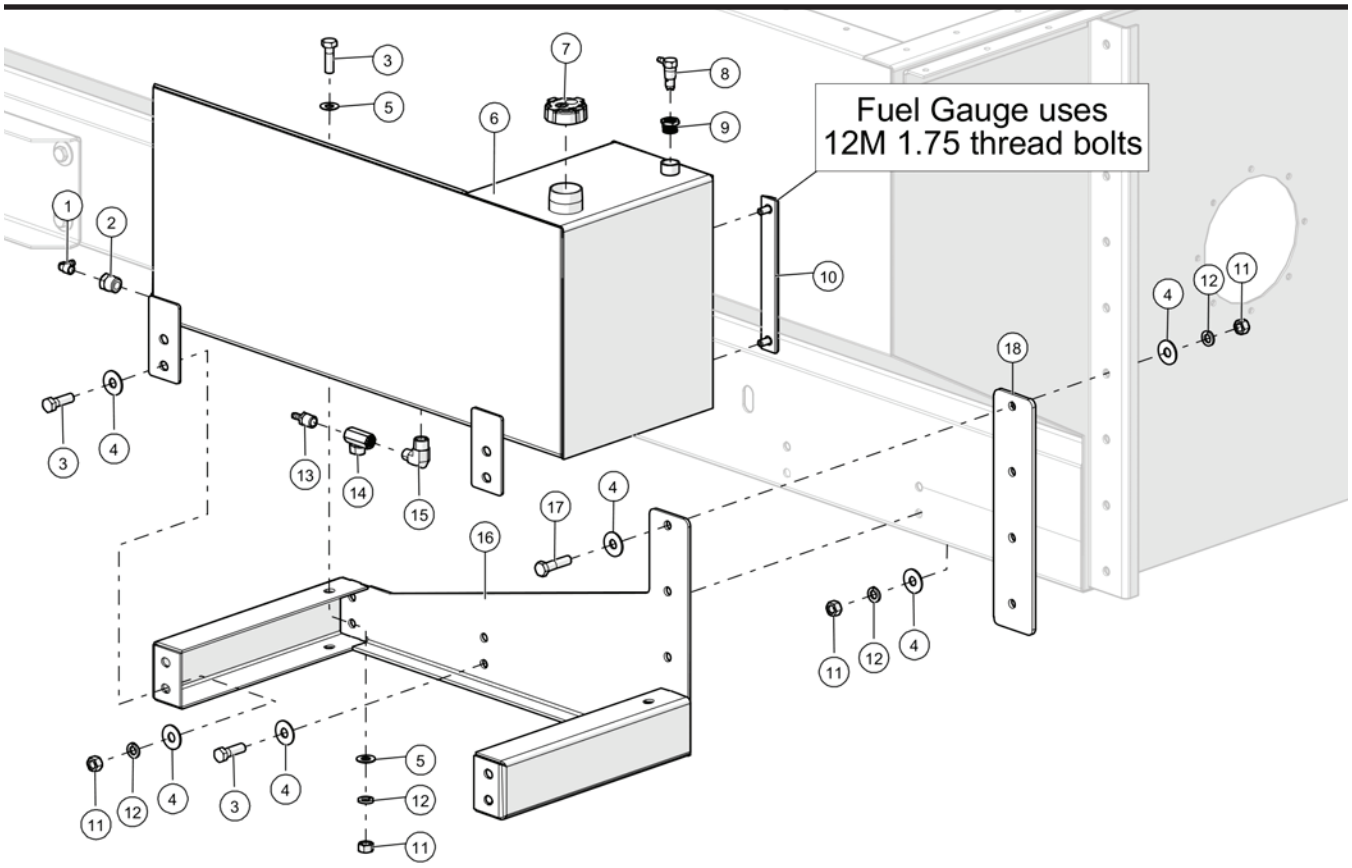
Ref. No.	Part Number	Description	No. Req'd
1	B05-1805-8	5/16-18NC x 1-1/4 Hex Head Cap Screw, Grade 8	2
2	W05F	5/16 in. Flat Washer	8
3	N05-18SF	5/16-18 Serrated Hex Flange Nut, Zinc	2
4	71-05-0007	Junction Box	1
NOT SHOWN			
	71-05-0028	Molded 5-Way Connector, Female	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

FUEL TANK

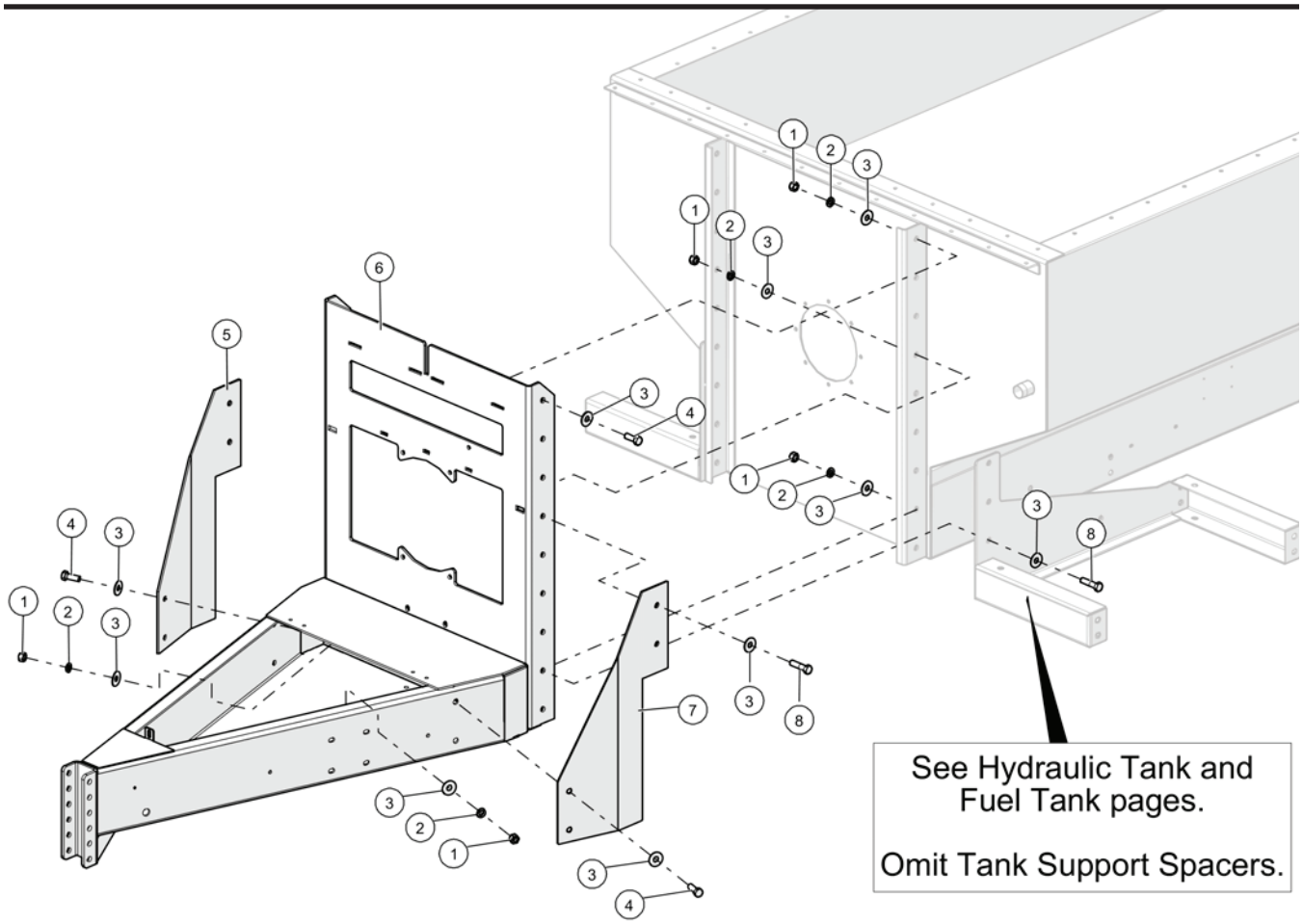
Ref. No.	Part Number	Description	No. Req'd
1	71-65-0013	Fitting, Hose Barb, 3/8 NPT-M x 5/16-90	1
2	HF12-6HB	3/4 to 3/8 NPT Hex Bushing	1
3	B10-1108-8	5/8-11NC x 2 in. Hex Head Cap Screw, Grade 8 MAGNI 501	10
4	W10F	5/8 in. Flat Washer MAGNI 501	24
5	W10SF	5/8 SAE Flat Washer, Grade 8 Zinc	4
6	71-13-0003	XA1200 Fuel Tank	1
7	91-15-0017	Fuel Cap	1
8	71-55-0014	Fuel Tank Vent	1
9	HF12-8HB	3/4 x 1/2 in. NPT HEX BUSHING	1
10	91-55-0039	Gauge, Fuel Level 10 in.	1
11	N10-11-8	Hex Nut	14
12	W10L	5/8 in. Lock Washer	10
13	71-65-0012	Fitting, Hose Barb, 1/2 NPT-M x 5/16	1
14	71-65-0020	1/2 in. NPTF Ball Valve	1
15	HF8-12MPE	1/2 in. MNPT x 3/4 in. MNPT 90° Elbow	1
16	71-13-0010	Fuel Tank Support Pilot	1
17	B10-1110-8	Bolt, 5/8-11 x 2-1/2 in.-8	4
18	71-01-0065	Hydraulic/Fuel Tank Support Spacers (Skid Units ONLY)	1



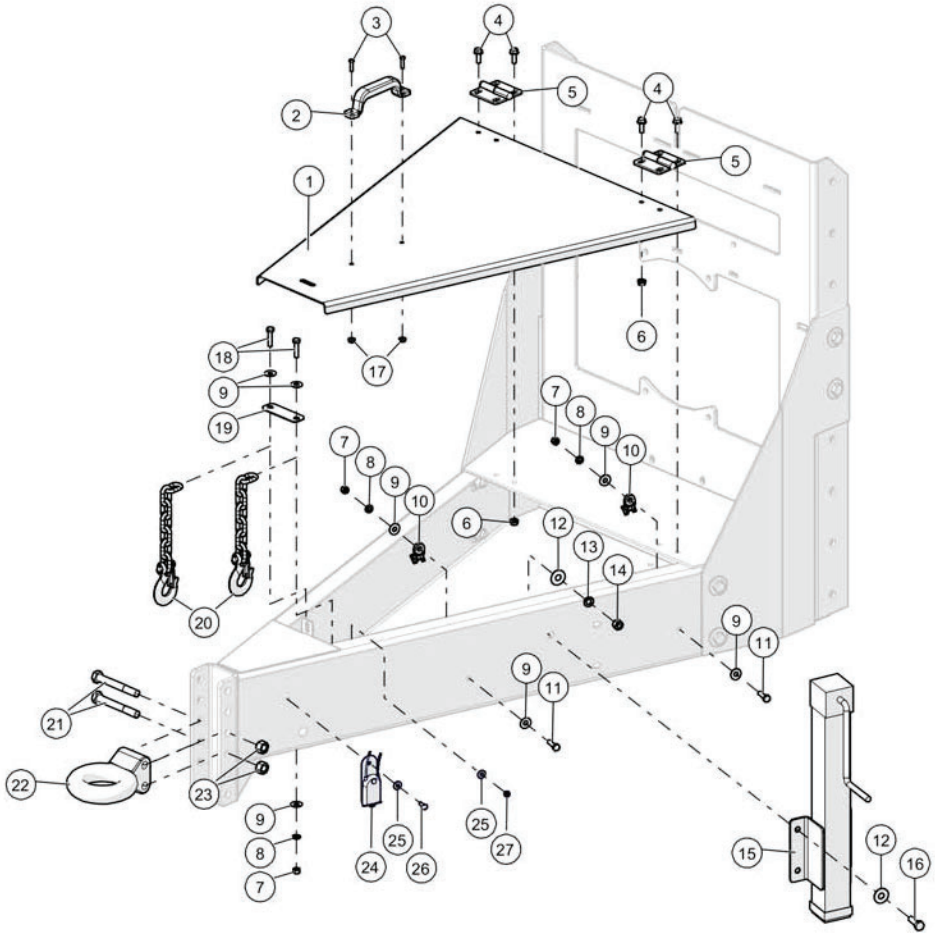
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

STRAIGHT PULL TRAILER: HITCH ATTACHMENT

Ref. No.	Part Number	Description	No. Req'd
1	N10-11-8	Hex Nut	22
2	W10L	5/8 in. Lock Washer	22
3	W10F	5/8 in. Flat Washer MAGNI 501	44
4	B10-1107-8	5/8-11NC x 1-3/4 in. L Hex Head Cap Screw, Grade 8	10
5	71-01-1011	Fuel Tank Hitch Gusset Straight Pull	1
6	71-03-0012	Straight Pull Hitch Weldment Pilot	1
7	71-01-1012	Hydraulic Tank Hitch Gusset Straight Pull	1
8	B10-1110-8	Bolt, 5/8-11 x 2-1/2 in.-8	12



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

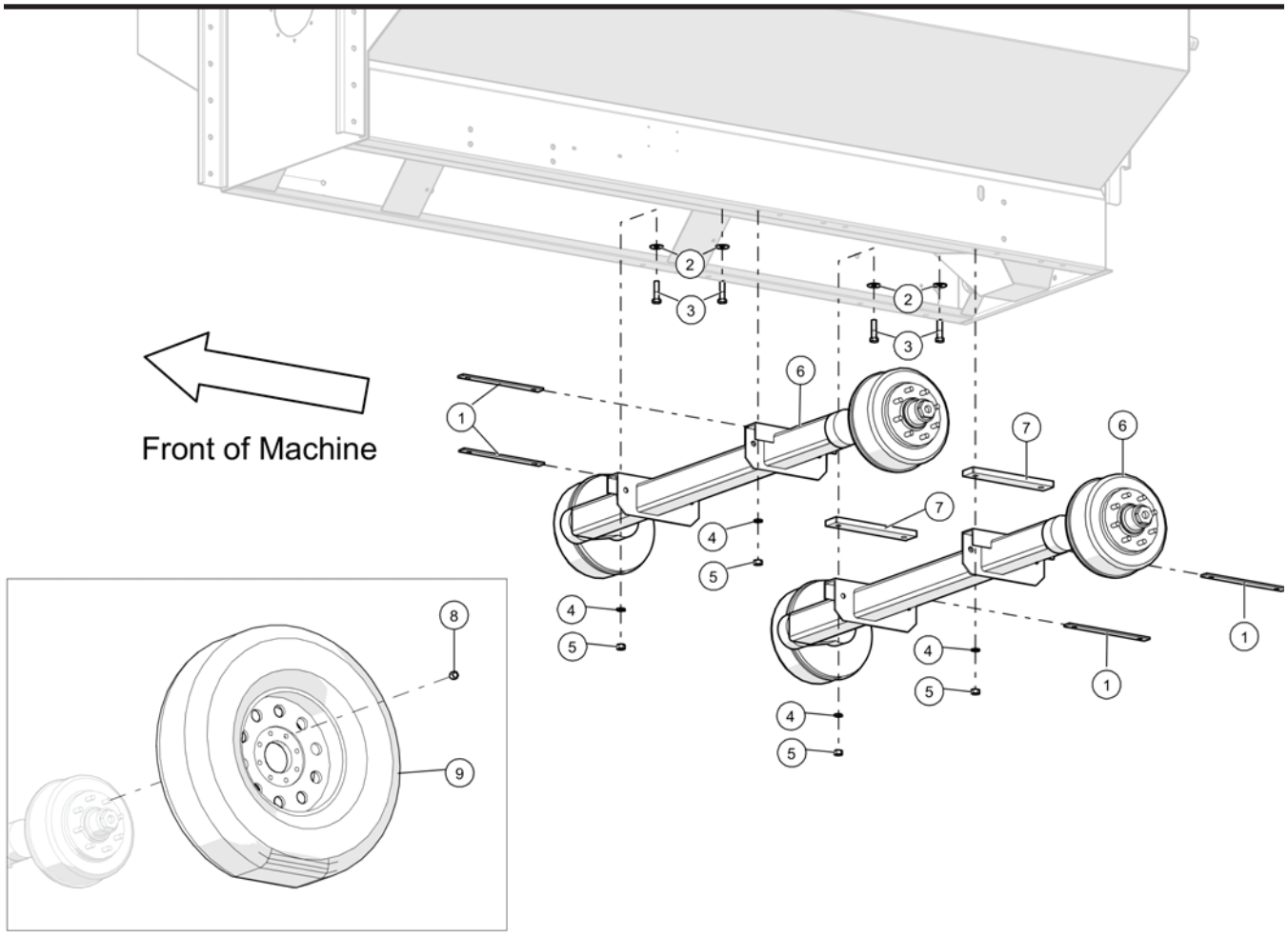
STRAIGHT PULL TRAILER: HITCH

Ref. No.	Part Number	Description	No. Req'd
1	71-01-0056	Straight Pull Hitch Lid Pilot	1
2	91-35-0021	Pull Handle, Hatch	1
3	B04-2004B-8	1/4-20NC x 1 in. Button Head Allen, Grade 8	2
4	B06-1604SF-8	3/8-16NC x 1 in. Long Serrated Flange, Grade 8	8
5	91-35-0028	Hinge Weld, GEN 3	2
6	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	8
7	N06-16H-8	3/8-16NC Hex Nut, Grade 8	4
8	W06L	3/8 in. Lock Washer MAGNI 501	4
9	W06F	3/8 in. Flat Washer	8
10	71-75-0006	Medium Torque Mount with 3/8 in. Hole	2
11	B06-1605-8	3/8-16NC x 1-1/4 in. Hex Head Cap Screw, Grade 8	2
12	W08F	1/2 in. Flat Washer	8
13	W08L	1/2 in. Lock Washer MAGNI 501	8
14	N08-13-8	Hex Nut	4
15	71-03-0016	Dropleg Trailer Jack Weldment	1
16	B08-1306-8	1/2-13NC x 1-1/2 Hex Head Cap Screw, Grade 8	4
17	N04-20SF-8	1/4-20 Serrated Flange Hex, Grade 8 Zinc	2
18	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	2
19	71-31-0020	Safety Rail Support Tab	1
20	71-05-0019	Safety Chain with Clevis	2
21	B10-1119-8	5/8-11NC x 4-3/4 in. Long Hex Head Cap Screw, Grade 8	2
22	71-05-0009	Pintle Eye	1
23	N10-11L-8	5/8-11 NC Lock Nut, Grade 8	2
24	71-05-0003	Breakaway Switch	1
25	W04F	1/4 in. Flat Washer	2
26	B04-2003-8	1/4-20 x 3/4 in. Long Hex Head Cap Screw, Grade 8	1
27	N04-20L-8	1/4-20 Locknut	1
NOT SHOWN			
	71-05-0004	Zinc Trailer Plug, 7-Way, Flat	1
	71-05-0023	Carabiner, 1/4 in., 200#	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

STRAIGHT PULL TRAILER: UNDERCARRIAGE ATTACHMENT

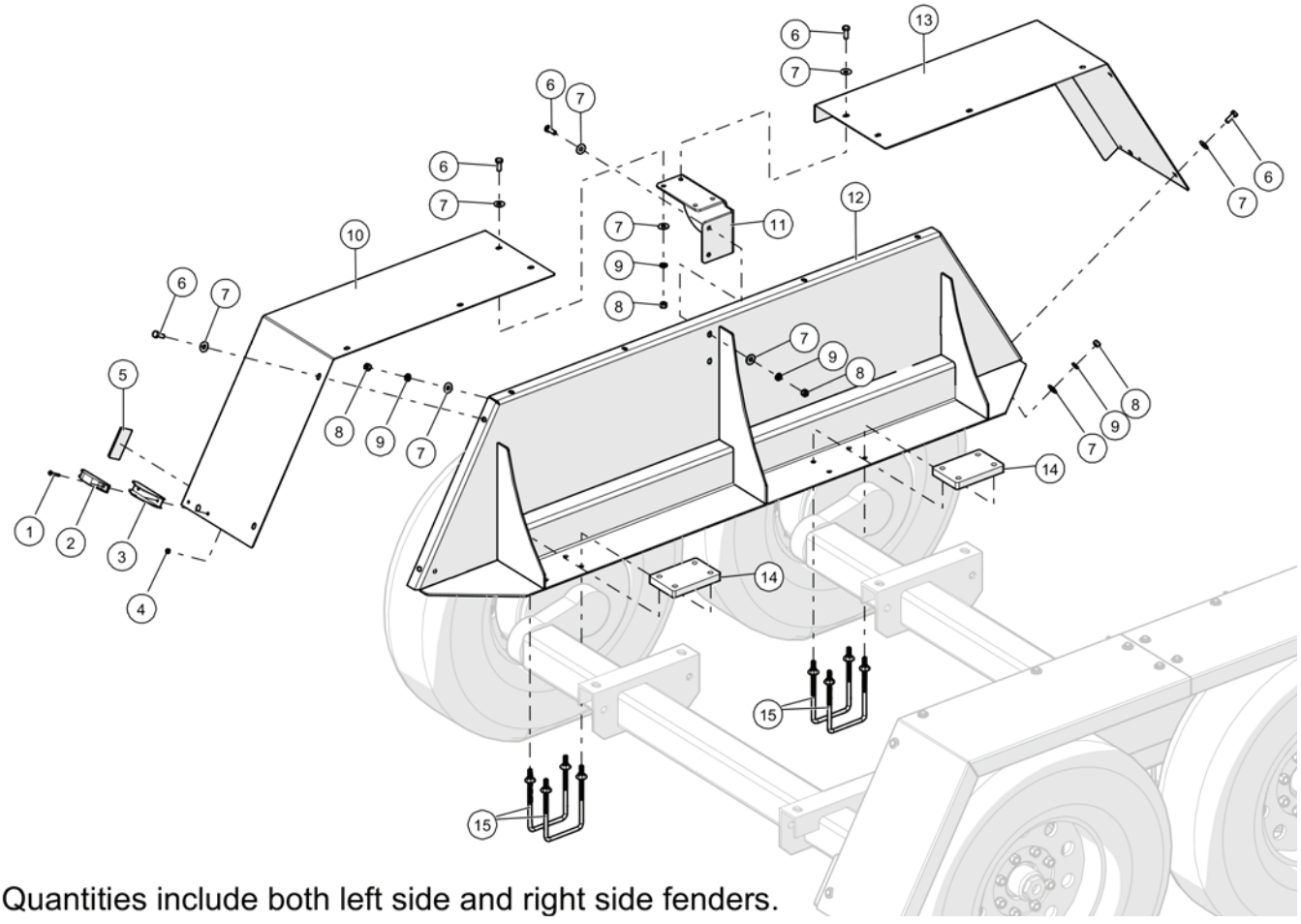
Ref. No.	Part Number	Description	No. Req'd
1	71-01-1015	Axle Clamp Plate	4
2	W10F	5/8 in. Flat Washer MAGNI 501	8
3	B10-1110-8	Bolt, 5/8-11 x 2-1/2 in.-8	8
4	W10L	5/8 in. Lock Washer	8
5	N10-11-8	Hex Nut	8
6	71-05-1001	Lippert #13, 8K Rubber Torsion Axle 0°	2
7	71-01-1016	Rear Axle Spacer	2
8	WL0190016	Nut	32
9	71-05-0013	Trailer Wheel And Tire - 16 in. Silver	4
NOT SHOWN			
	71-05-0013W	Optional White Wheel and Tire Assembly	4



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

STRAIGHT PULL TRAILER: FENDERS

Ref. No.	Part Number	Description	No. Req'd
1	B#10-2405B-SS	10-24NC x 1-1/4 in. Button Head Allen Stainless Steel	4
2	71-05-0015	Corner Marker Light LED Yellow	2
3	91-35-0004	Mount Corner Marker Light	2
4	N#10-24K	10-24-UNC Keps Nut	4
5	71-05-0018	Amber Rectangular Reflector	2
6	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	28
7	W06F	3/8 in. Flat Washer	56
8	N06-16H-8	3/8-16NC Hex Nut, Grade 8	28
9	W06L	3/8 in. Lock Washer MAGNI 501	28
10	71-03-1004	Fender Half R -- T Weld	2
11	71-01-0021	Fender Connector	2
12	71-03-1002	Passenger Side Fender Axle Mount Weld -- T	1
	17-03-1001	Driver Side Fender Axle Mount Weld -- T	1
13	71-03-1003	Fender Half L -- T Weld	2
14	71-01-1017	Rear Fender Spacer	2
15	71-05-0014	Fender U-Bolt	8

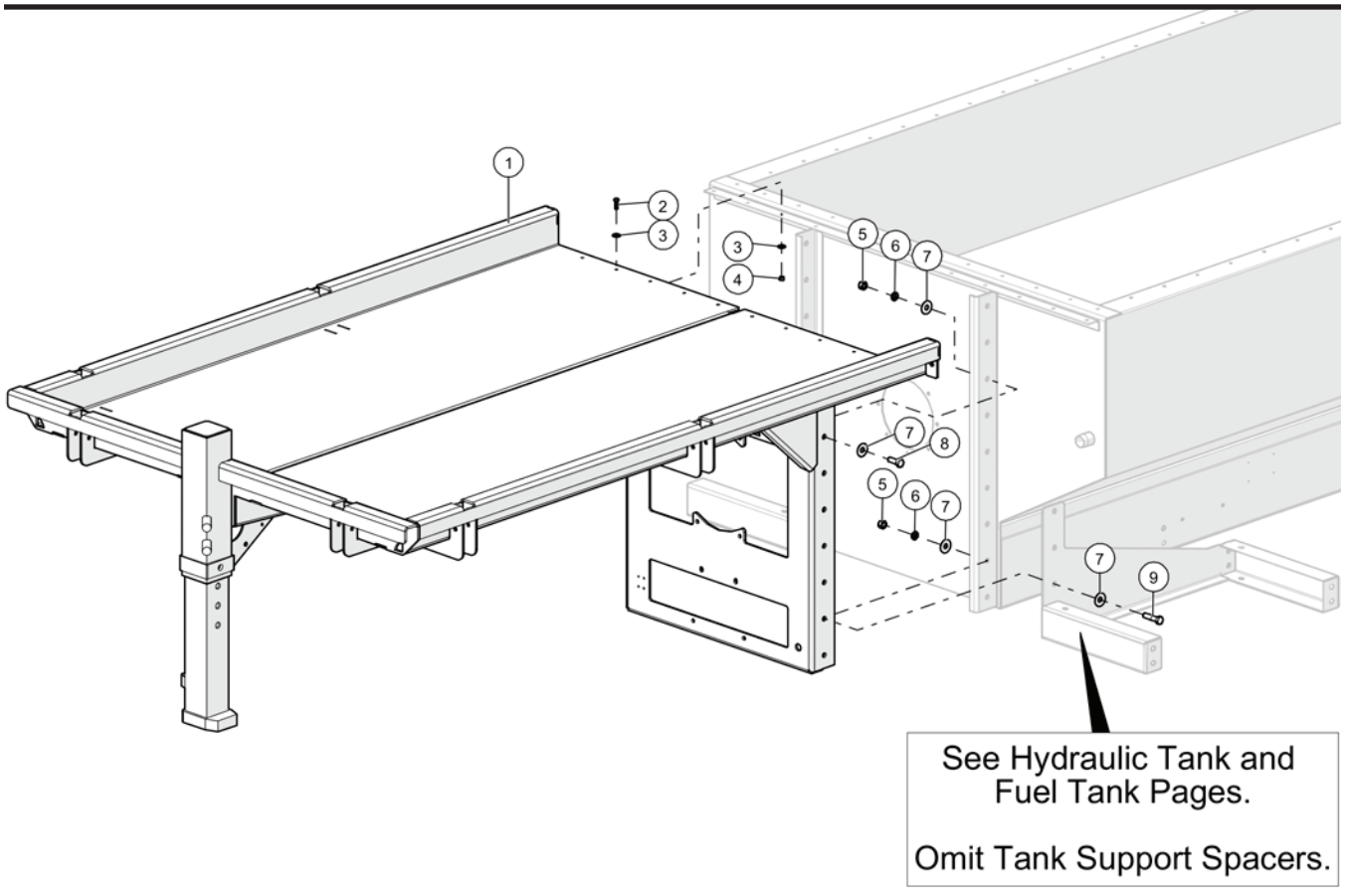


Quantities include both left side and right side fenders.

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

GOOSENECK TRAILER: DECK ATTACHMENT

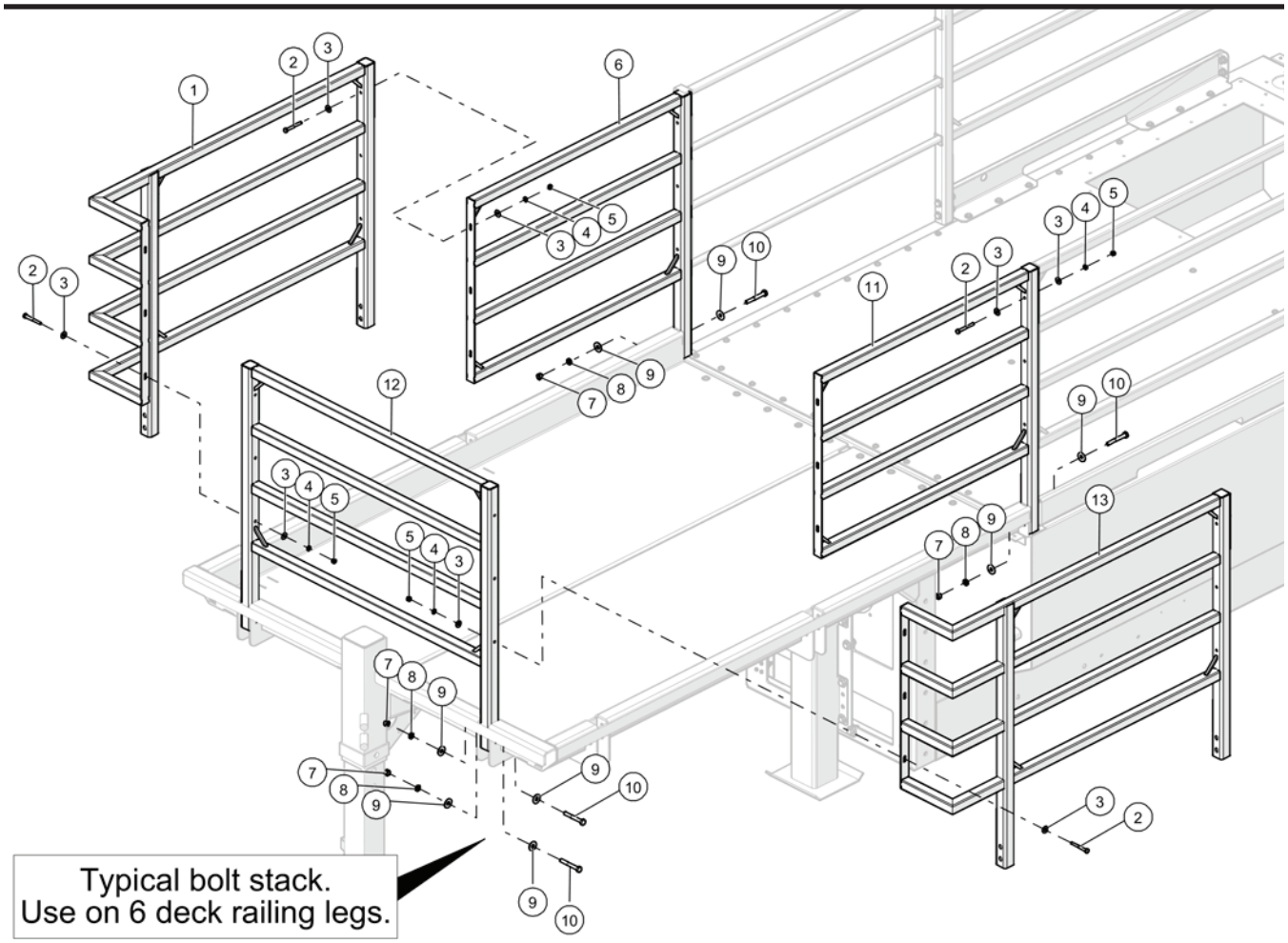
Ref. No.	Part Number	Description	No. Req'd
1	71-03-0011	Gooseneck Deck Pilot	1
2	B06-1605B-SS	3/8-16 x 1-1/4 in. Button nead Socket Head Cap Screw, Stainless Steel	10
3	W06F	3/8 in. Flat Washer	20
4	N06-16L-SS	3/8-16NC Locknut, Stainless Steel	10
5	N10-11-8	Hex Nut	18
6	W10L	5/8 in. Lock Washer	18
7	W10F	5/8 in. Flat Washer MAGNI 501	36
8	B10-1107-8	5/8-11NC x 1-3/4 in. L Hex Head Cap Screw, Grade 8	5
9	B10-1110-8	Bolt, 5/8-11 x 2-1/2 in.-8	4



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

GOOSENECK TRAILER: DECK RAILING

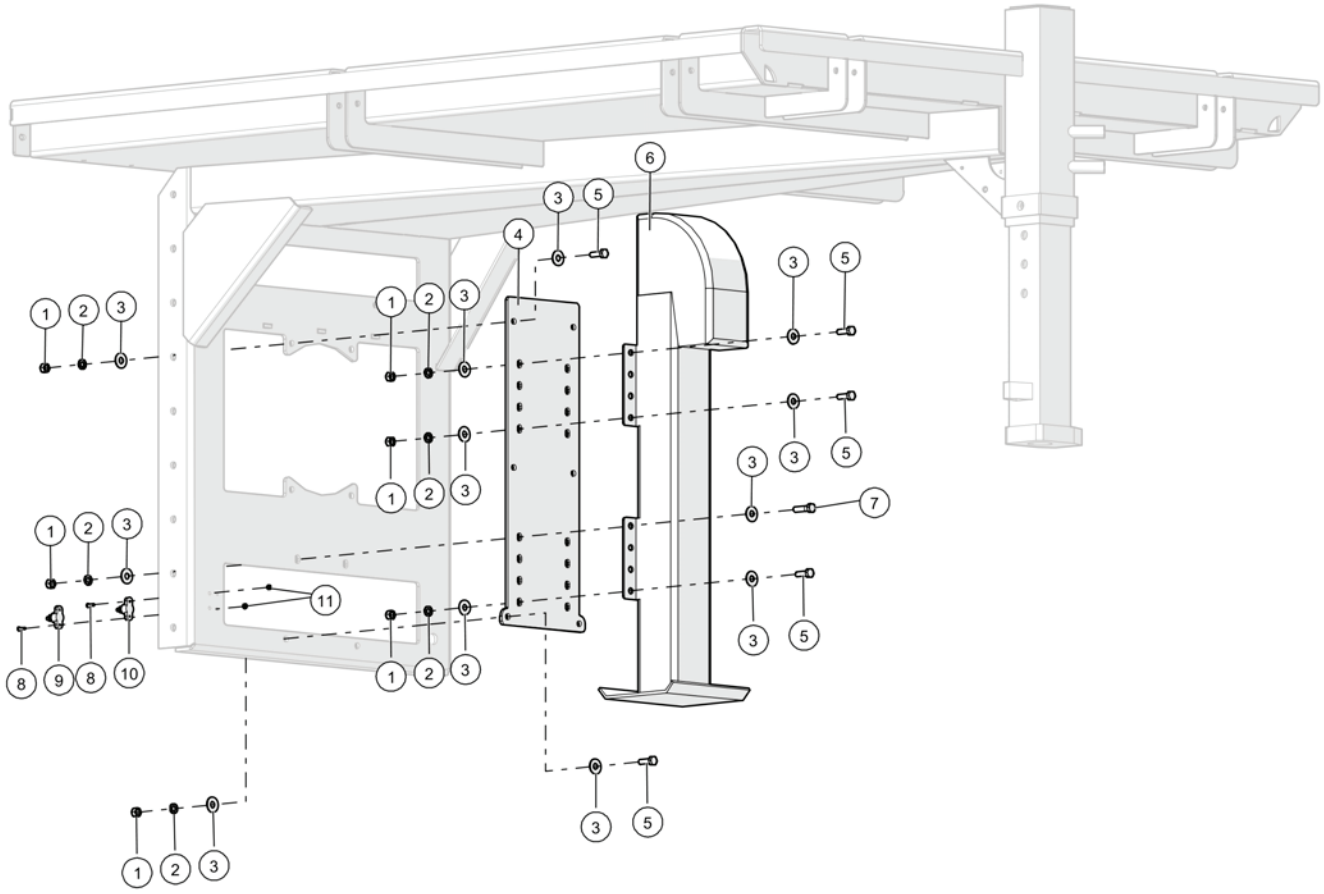
Ref. No.	Part Number	Description	No. Req'd
1	71-03-0003	Front Deck Corner Rail Weld Right	1
2	B06-1612-8	3/8-16NC x 3 in. Hex Head Cap Screw, MAG 501	15
3	W06F	3/8 in. Flat Washer	30
4	W06L	3/8 in. Lock Washer MAGNI 501	15
5	N06-16H-8	3/8-16NC Hex Nut, Grade 8	15
6	71-03-0005	Tank To Deck Rail Weld	1
7	N08-13-8	Hex Nut	16
8	W08L	1/2 in. Lock Washer MAGNI 501	16
9	W08F	1/2 in. Flat Washer	32
10	B08-1314-8	1/2-13NC x 3-1/2 Hex Head Cap Screw, Grade 8	16
11	71-03-0005	Tank To Deck Rail Weld	1
12	71-03-0004	Front Deck Rail Weld Middle	1
13	71-03-0002	Front Deck Corner Rail Weld Left	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

GOOSENECK TRAILER: TRAILER JACK

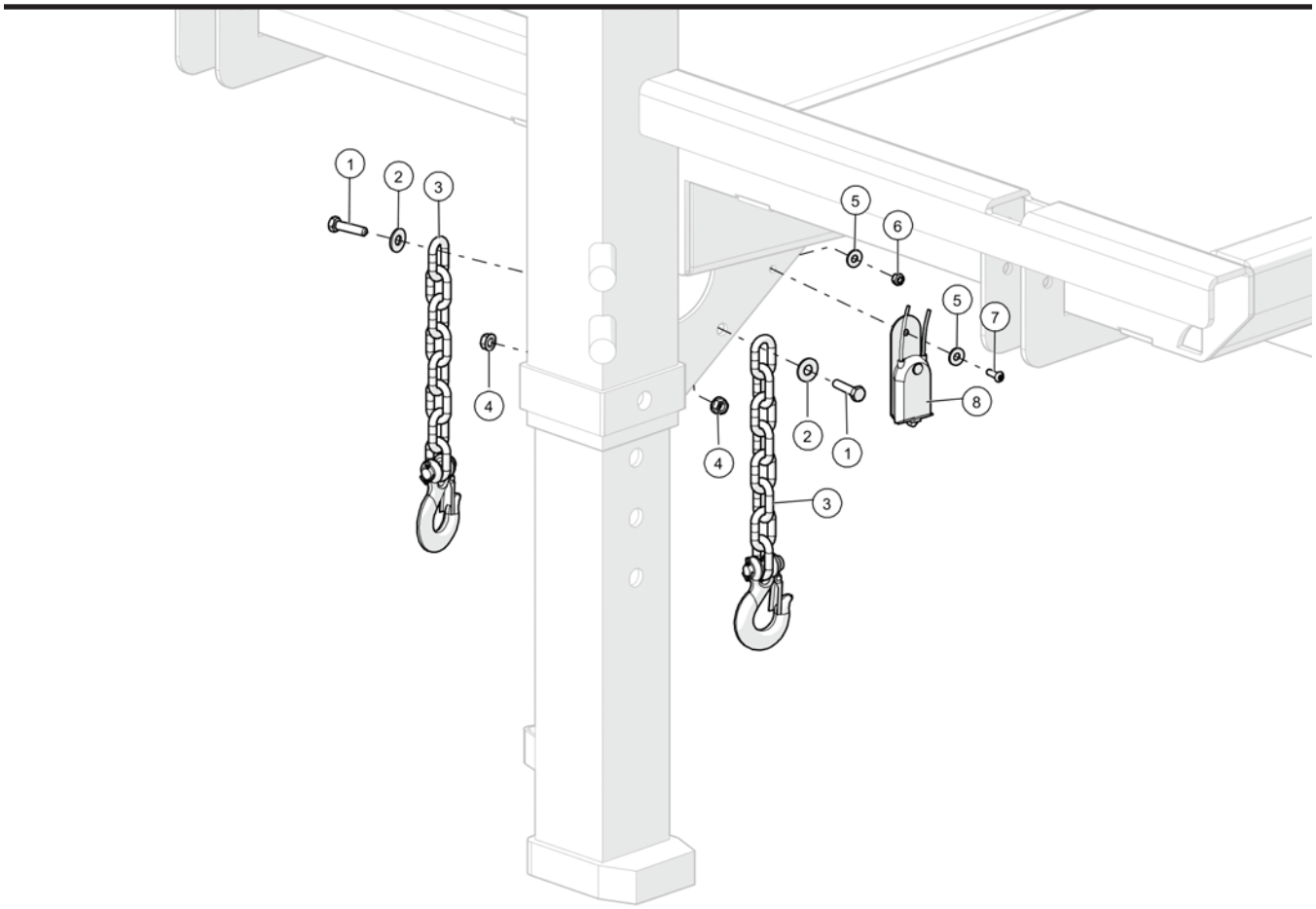
Ref. No.	Part Number	Description	No. Req'd
1	N08-13-8	Hex Nut	14
2	W08L	1/2 in. Lock Washer MAGNI 501	14
3	W08F	1/2 in. Flat Washer	28
4	71-01-0050	Gooseneck Jack Mount Plate Pilot	1
5	B08-1306-8	1/2-13NC x 1-1/2 Hex Head Cap Screw, Grade 8	12
6	71-05-0001	Electric Trailer Jack	1
7	B08-1308-8	1/2-13NC x 2 in. Hex Head Cap Screw, Grade 8	2
8	B#10-2403B-SS	10-24NC x 3/4 in. Button Head Allen, Stainless Steel	4
9	71-05-0026	Junction Block Stud Red [5/16 in.]	1
10	71-05-0025	Junction Block Stud Black [5/16 in.]	1
11	N#10-24K	10-24-UNC Keps Nut	4
NOT SHOWN			
	71-05-0035	Contactor Kit [Relay] for Electric Trailer Jack	1
	71-73-0011	Positive Cable For Goose Neck Electric Jack	1
	71-73-0012	Negative Cable For Goose Neck Electric Jack	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

GOOSENECK TRAILER: SAFETY CHAINS

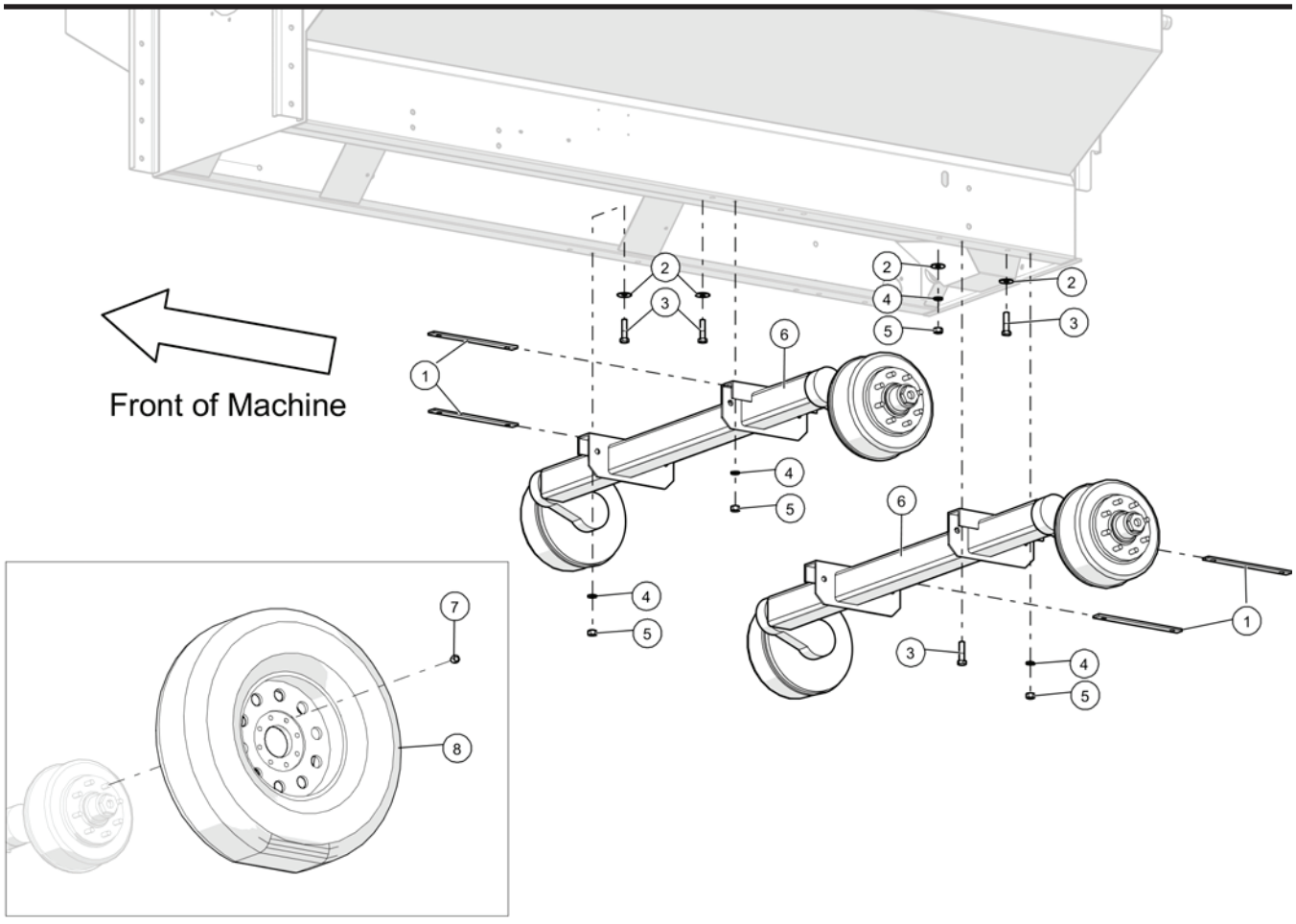
Ref. No.	Part Number	Description	No. Req'd
1	B06-1606-8	3/8-16NC x 1-1/2 in. Hex Head Cap Screw, Grade 8 MAG 501	2
2	W06F	3/8 in. Flat Washer	2
3	71-05-0019	Safety Chain With Clevis	2
4	N06-16SF-8	3/8-16NC Serrated Flange Nut, Grade 8	2
5	W04F	1/4 in. Flat Washer	2
6	N04-20L-8	1/4-20 Locknut	1
7	B04-2003B-8	1/4-20 NC x 3/4 in. Button Head Socket Head Cap Screw	1
8	71-05-0003	Breakaway Switch	1
NOT SHOWN			
	71-05-0004	Zinc Trailer Plug, 7-Way, Flat	1
	71-05-0023	Carabiner, 1/4 in., 200#	1



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

GOOSENECK TRAILER: UNDERCARRIAGE ATTACHMENT

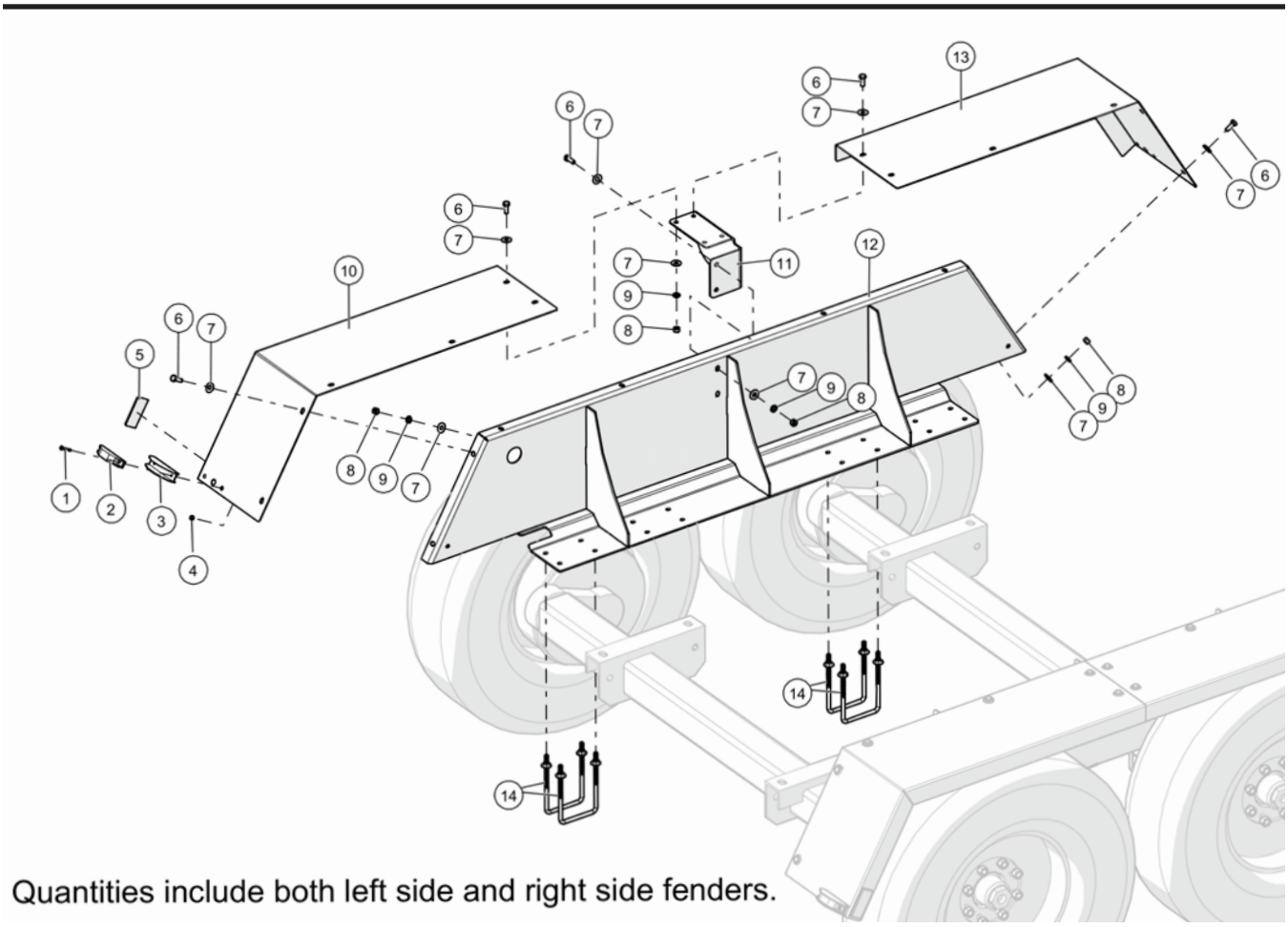
Ref. No.	Part Number	Description	No. Req'd
1	71-01-1015	Axle Clamp Plate	4
2	W10F	5/8 in. Flat Washer MAGNI 501	8
3	B10-1110-8	Bolt, 5/8-11 x 2-1/2 in.-8	8
4	W10L	5/8 in. Lock Washer	8
5	N10-11-8	Hex Nut	8
6	71-05-0037	Lippert #13, 8K Rubber Torsion Axle 0°	2
7	WL0190016	Nut	32
8	71-05-0013	Trailer Wheel And Tire - 16 in. Silver	4
NOT SHOWN			
	71-05-0013W	Optional White Wheel and Tire Assembly	4



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

GOOSENECK TRAILER: FENDERS

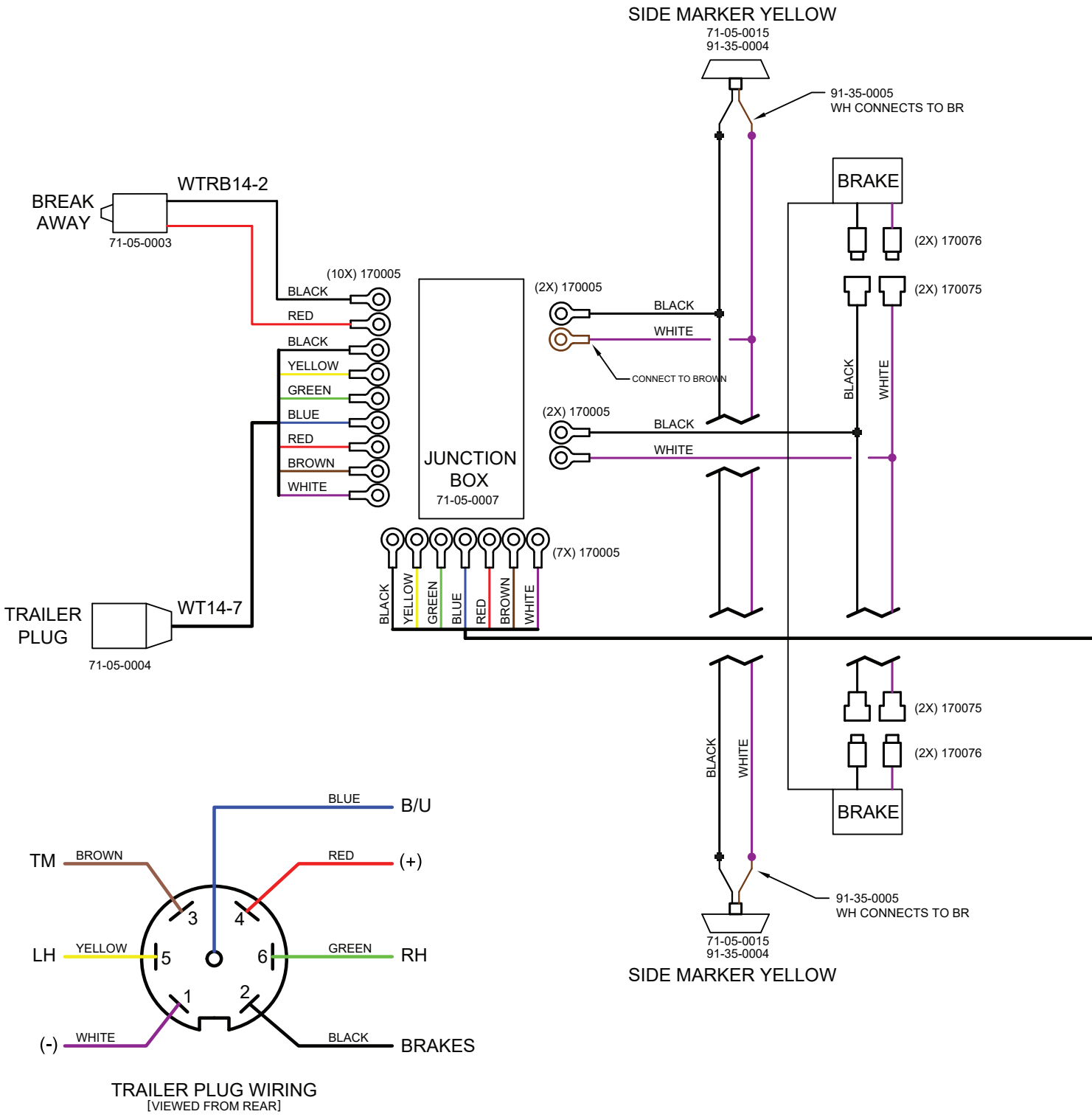
Ref. No.	Part Number	Description	No. Req'd
1	B#10-2405B-SS	10-24NC x 1-1/4 in. Button Head Allen Stainless Steel	4
2	71-05-0015	Corner Marker Light LED Yellow	2
3	91-35-0004	Mount Corner Marker Light	2
4	N#10-24K	10-24-UNC Keps Nut	4
5	71-05-0018	Amber Rectangular Reflector	2
6	B06-1604-8	3/8-16NC x 1 in. Hex Head Cap Screw, Grade 8	28
7	W06F	3/8 in. Flat Washer	56
8	N06-16H-8	3/8-16NC Hex Nut, Grade 8	28
9	W06L	3/8 in. Lock Washer MAGNI 501	28
10	71-03-0014	Fender R -- GN Weld	2
11	71-01-0021	Fender Connector	2
12	71-03-0007	Fender Axle Mount Weld	2
13	71-03-0015	Fender L -- GN Weld	2
14	71-05-0014	Fender U-Bolt	8



Quantities include both left side and right side fenders.

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

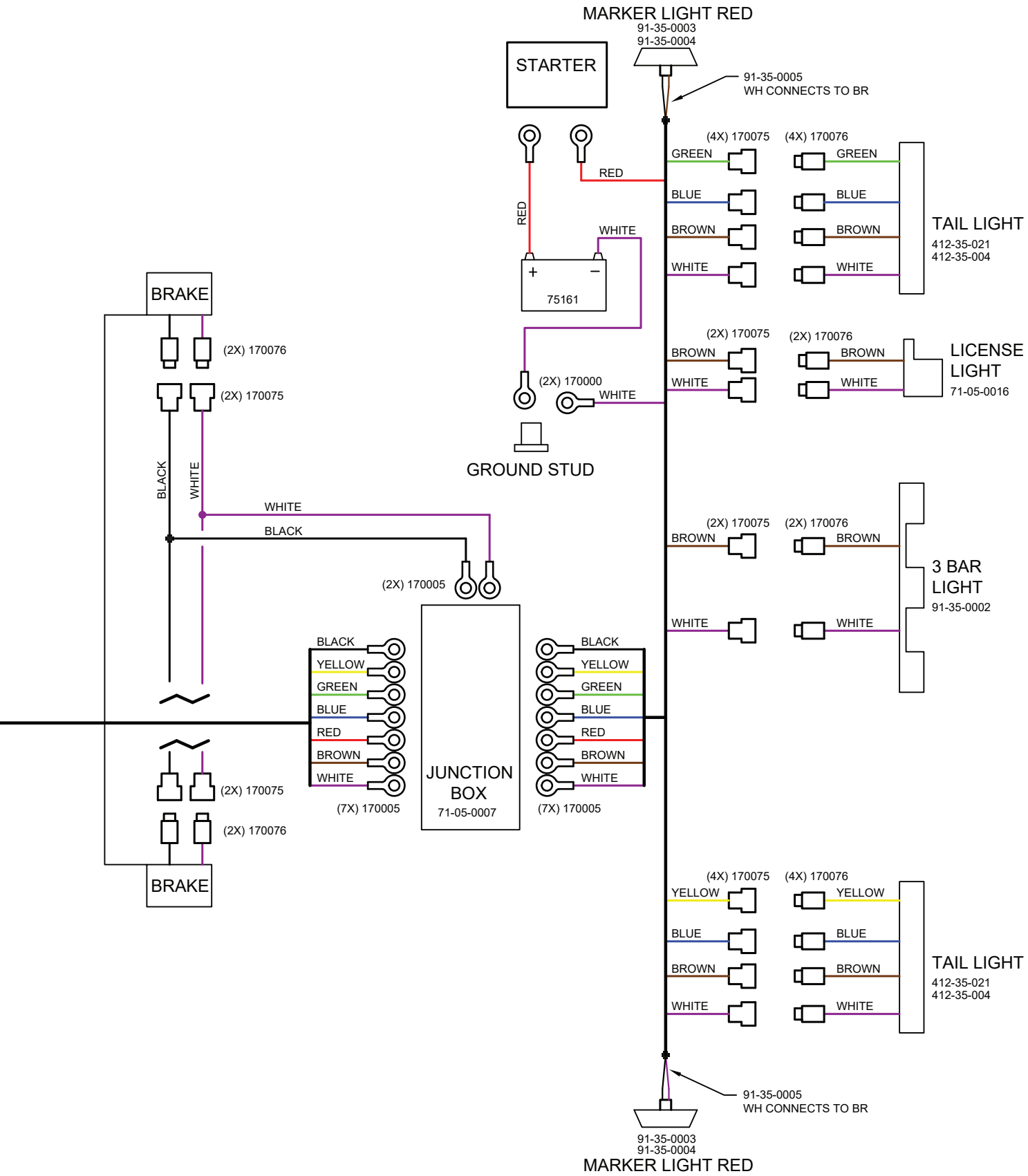
TRAILER HARNESS WIRING: OVERVIEW



TRAILER PLUG WIRING
[VIEWED FROM REAR]

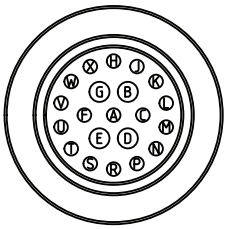
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TRAILER HARNESS WIRING: OVERVIEW



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

PLATFORM UMBILICAL HARNESS (71-73-0006B)



View from rear of connector

Plug 301
Operator Station

440-74-156
21 Cond Deutsch
HDP26-24-21SN

Pin	
A	301A SW PWR 201A 16 ga RD
B	301B BATT + 201B 16 ga RD
C	
D	301D Starter 201D 16 ga BU/BK
E	301E BATT – 201E 16 ga BK
F	
G	301G ECM Enable 201G 16 ga RD/BK
H	
J	301J Agi Cnt TWR 201J 16 ga OR
K	301K +VREF 201K 16 ga RD/BK
L	301L Horn 201L 16 ga WH/BK
M	301M Beacon Pattern 201M 16 ga GN
N	
P	
R	301S Shutdown (LS) 201S 16 ga BK
S	
T	
U	
V	301W CAN-A Lo 201W 18 ga GN
W	301X CAN-A Hi 201X 18 ga YL
X	

88"

40"

Install Deutsch # 114017
in any unused terminals

Plug 705
Switch Umbilical

440-74-006
6 Cond Deutsch
DT06-6S

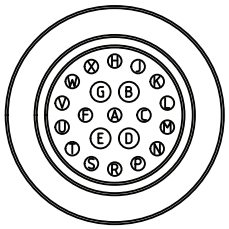
Pin	
1	70501 SW PWR 301A 18 ga RD
2	70502 BATT – 201E 18 ga BK
3	70503 CAN-A Hi 201X 18 ga YL
4	70504 CAN-A Lo 201W 18 ga GN
5	
6	

8" Out

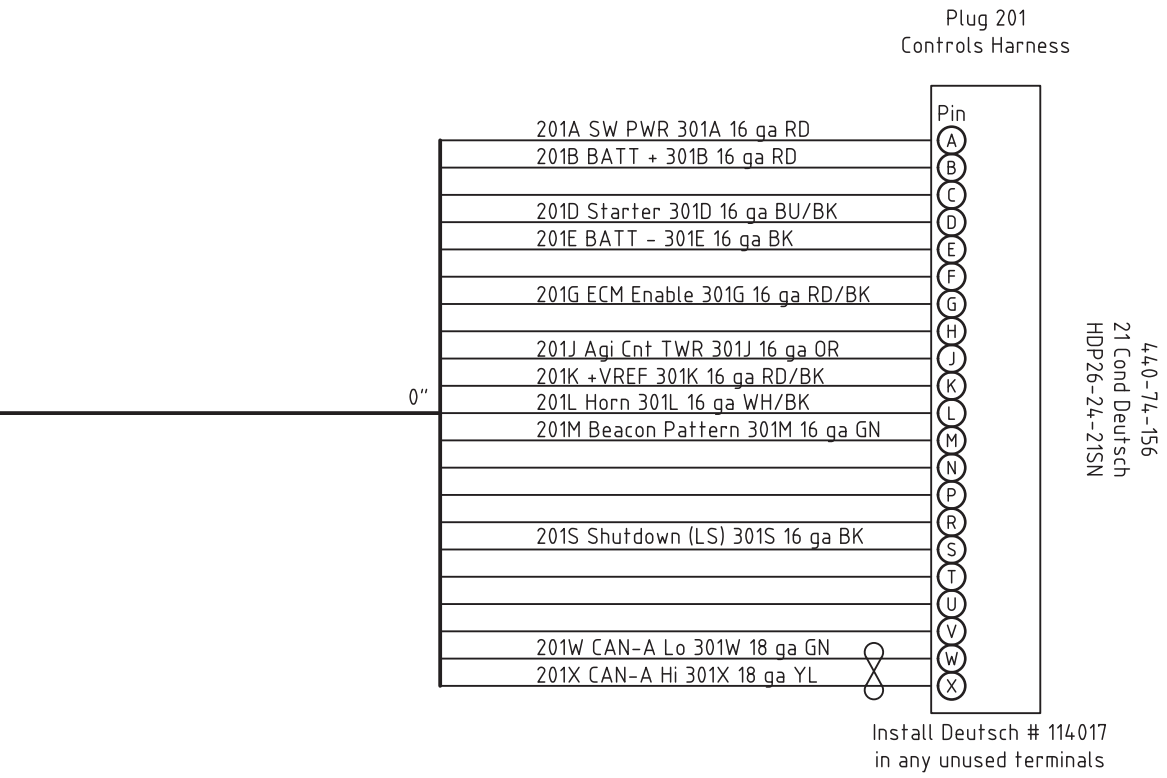
Install Deutsch # 114017
in any unused terminals

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

PLATFORM UMBILICAL HARNESS (71-73-0006B)



View from rear of connector

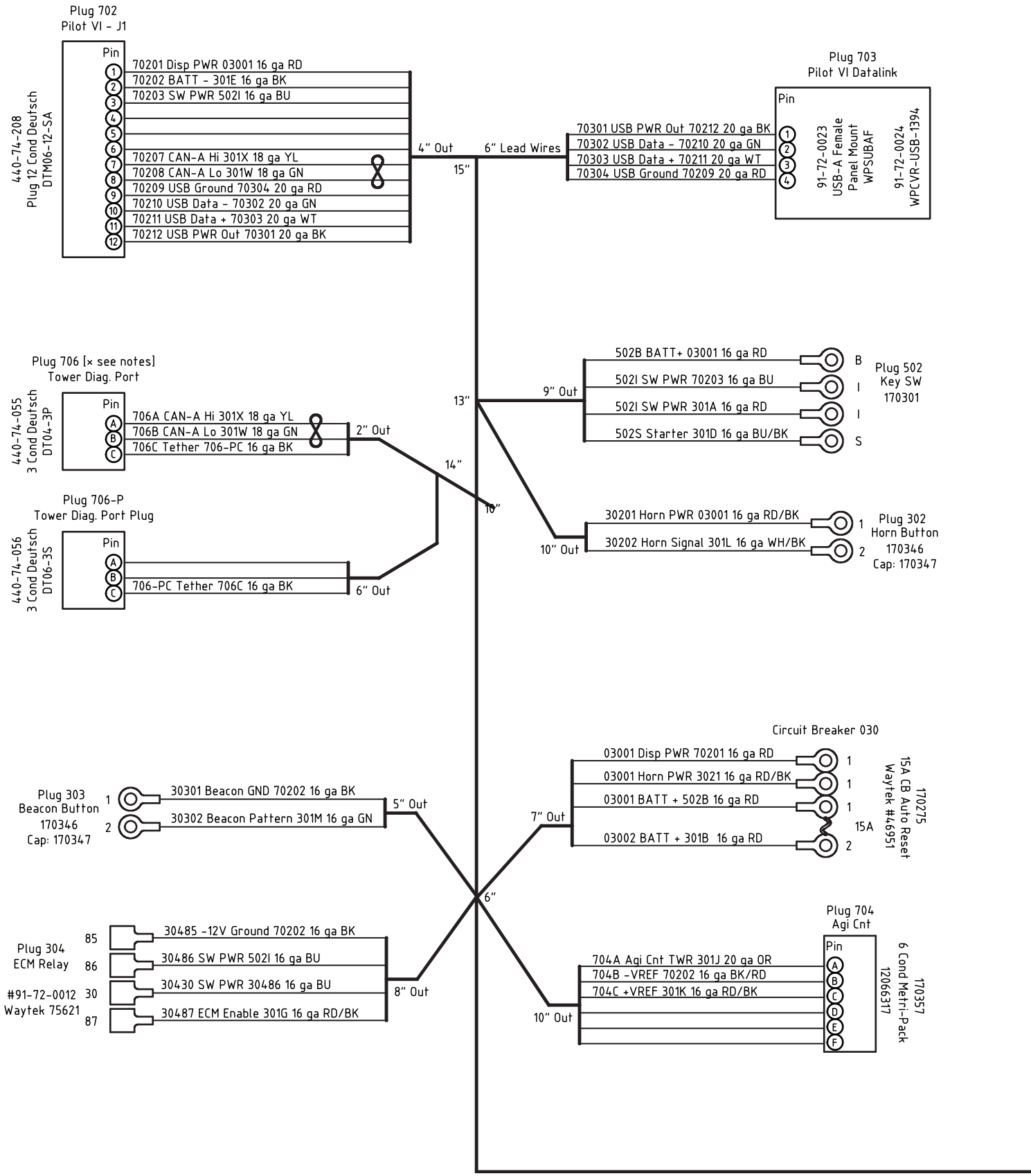


SPLICE NOTES:
70501 SW PWR into 301A 18 ga RD 36" from 201
70502 BATT - into 201E 18 ga BK 36" from 201
70503 CAN-A Hi into 201X 18 ga YL 38" from 201
70504 CAN-A Lo into 201W 18 ga GN 38" from 201

WIRING NOTES:
J1939 CANBus wires are YL & GN twisted pair per J1939/11
All CanBus terminals (J1939, CAN Hi/Lo, etc) must be gold plated unless noted
All open, unused terminals should have sealing cavity plugs installed (e.g. Deutsch #114017)
All connectors should be labled with Plug # (e.g. "716", black Sharpie is acceptable)
Harness must be tested for continuity between plugs at all pins
Unless noted, all wire to meet SAE-J-1560 TXL (Extra Thin Wall) for 125 deg. C
Lengths measured to back of connectors
Wires need to be protected (i.e. braid or loom) to within 1" of connector

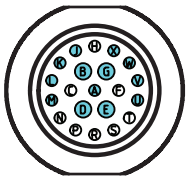
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TOWER HARNESS (71-73-0002B)

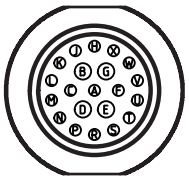


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

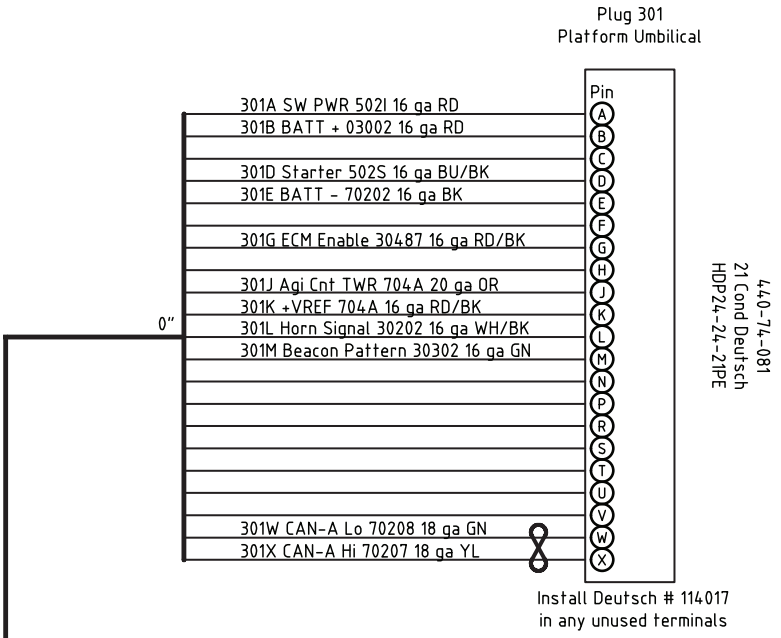
TOWER HARNESS (71-73-0002B)



OPEN/USED PINS



VIEW FROM REAR OF CONNECTOR



SPLICE NOTES:

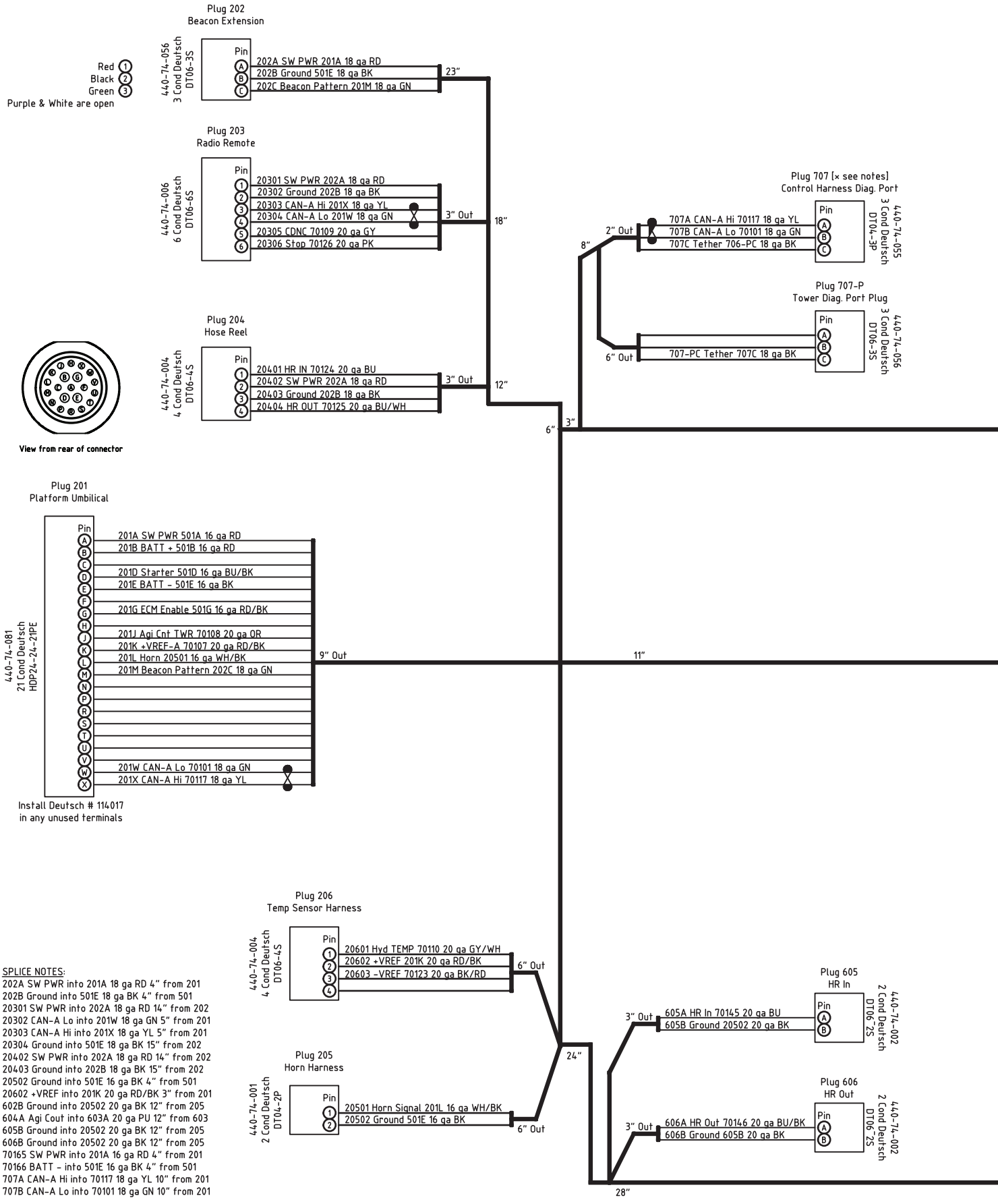
30301 Beacon GND into 70202 16 Gauge Black 3 inches from 301
30485 -12V Ground into 70202 16 Gauge Black 4 inches from 301
30486 SW PWR 5021 16 Gauge Blue 6 inches from 502
704B -VREF into 70202 16 Gauge Black/Red 5 inches from 301
706A CAN-A Hi into 301X 18 Gauge Yellow
706B CAN-A Lo into 301W 18 Gauge Green

WIRING NOTES:

J1939 CANBus wires are YL and GN twisted pair per J1939/11.
All CanBus terminals (J1939, CAN Hi/Lo, etc) must be gold plated unless noted.
All open, unused terminals should have sealing cavity plugs installed (e.g. Deutsch #114017).
All connectors should be tabled with Plug # (e.g. "716", black permanent marker is acceptable).
Harness must be tested for continuity between plugs at all pins.
Unless noted, all wire to meet SAE-J-1560 TXL (Extra Thin Wall) for 125° C.
Lengths measured to back of connectors.
Wires need to be protected (i.e. braid or loom) to within 1 inch of connector.
X On Plug 706, use 440-74-058, W3P Wedgelock.

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

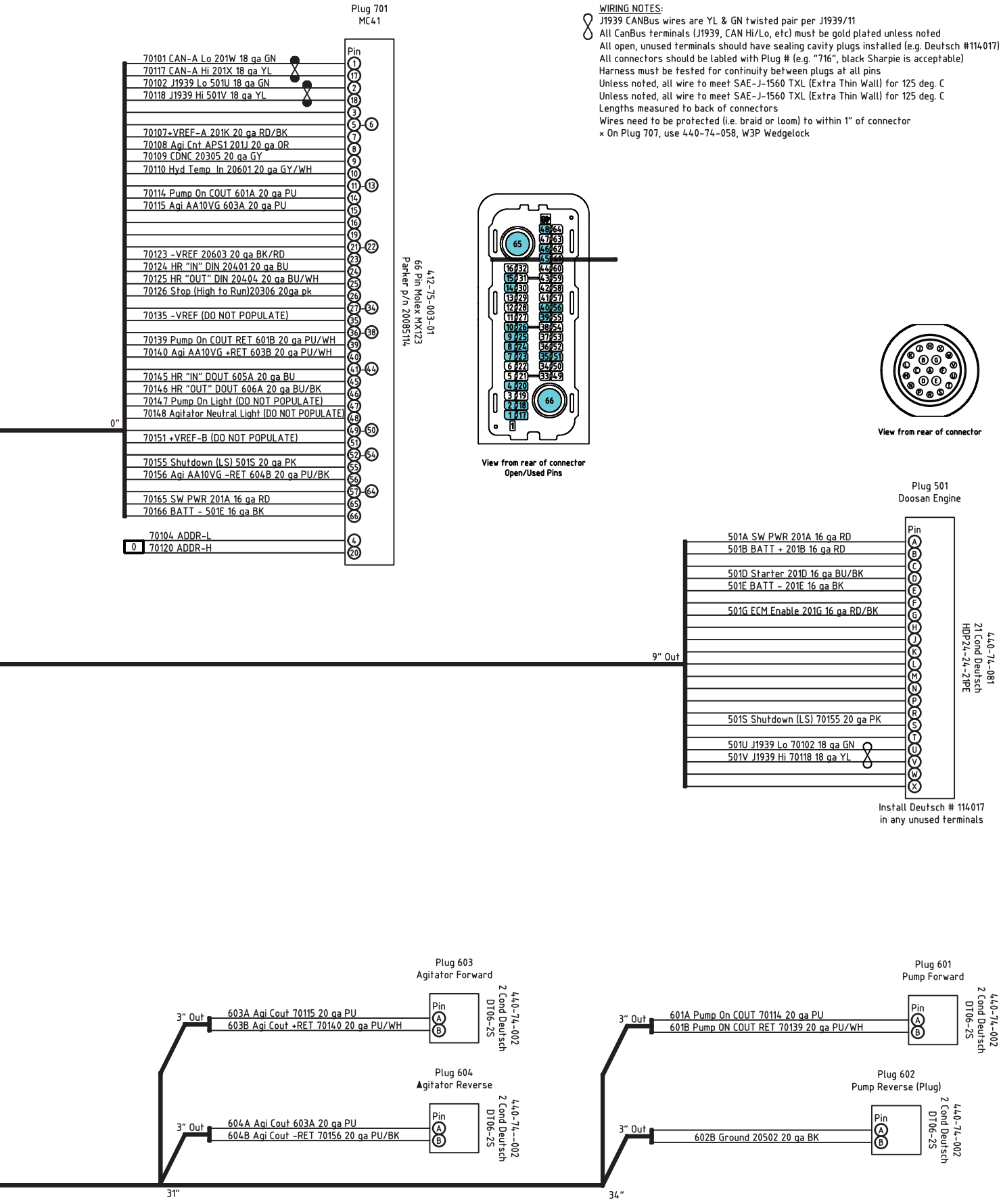
CONTROLS HARNESS (71-73-0004E)



SPLICE NOTES:
202A SW PWR into 201A 18 ga RD 4" from 201
202B Ground into 501E 18 ga BK 4" from 501
20301 SW PWR into 202A 18 ga RD 14" from 202
20302 CAN-A Lo into 201W 18 ga GN 5" from 201
20303 CAN-A Hi into 201X 18 ga YL 5" from 201
20304 Ground into 501E 18 ga BK 15" from 202
20402 SW PWR into 202A 18 ga RD 14" from 202
20403 Ground into 202B 18 ga BK 15" from 202
20502 Ground into 501E 16 ga BK 4" from 501
20602 +VREF into 201K 20 ga RD/BK 3" from 201
602B Ground into 20502 20 ga BK 12" from 205
604A Agi Cout into 603A 20 ga PU 12" from 603
605B Ground into 20502 20 ga BK 12" from 205
606B Ground into 20502 20 ga BK 12" from 205
70165 SW PWR into 201A 16 ga RD 4" from 201
70166 BATT - into 501E 16 ga BK 4" from 501
707A CAN-A Hi into 70117 18 ga YL 10" from 201
707B CAN-A Lo into 70101 18 ga GN 10" from 201

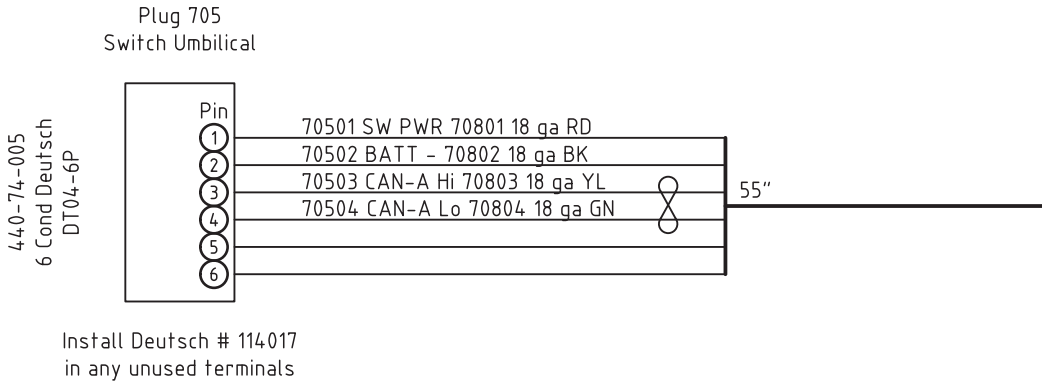
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

CONTROLS HARNESS (71-73-0004E)



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

SWITCH UMBILICAL HARNESS (71-73-0007A)

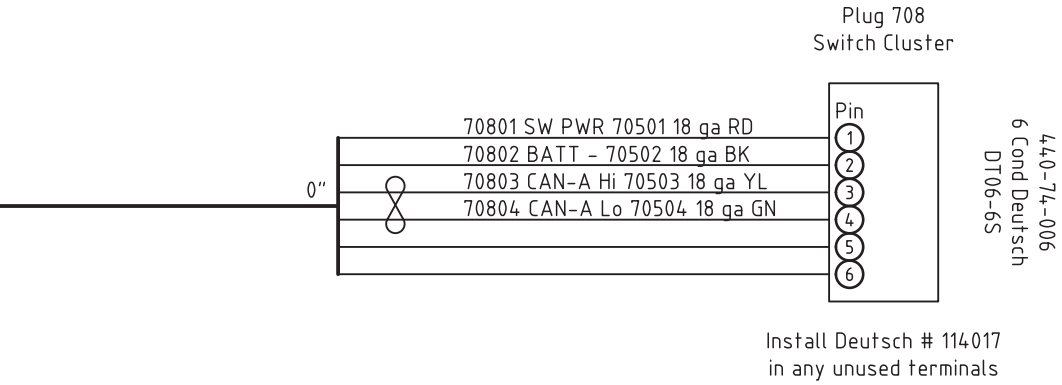


WIRING NOTES:

- J1939 CANBus wires are YL & GN twisted pair per J1939/11
- All CanBus terminals (J1939, CAN Hi/Lo, etc) must be gold plated unless noted
- All open, unused terminals should have sealing cavity plugs installed (e.g. Deutsch #114017)
- All connectors should be labled with Plug # (e.g. "716", black Sharpie is acceptable)
- Harness must be tested for continuity between plugs at all pins
- Unless noted, all wire to meet SAE-J-1560 TXL (Extra Thin Wall) for 125 deg. C
- Lengths measured to back of connectors
- Wires need to be protected (i.e. braid or loom) to within 1" of connector

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

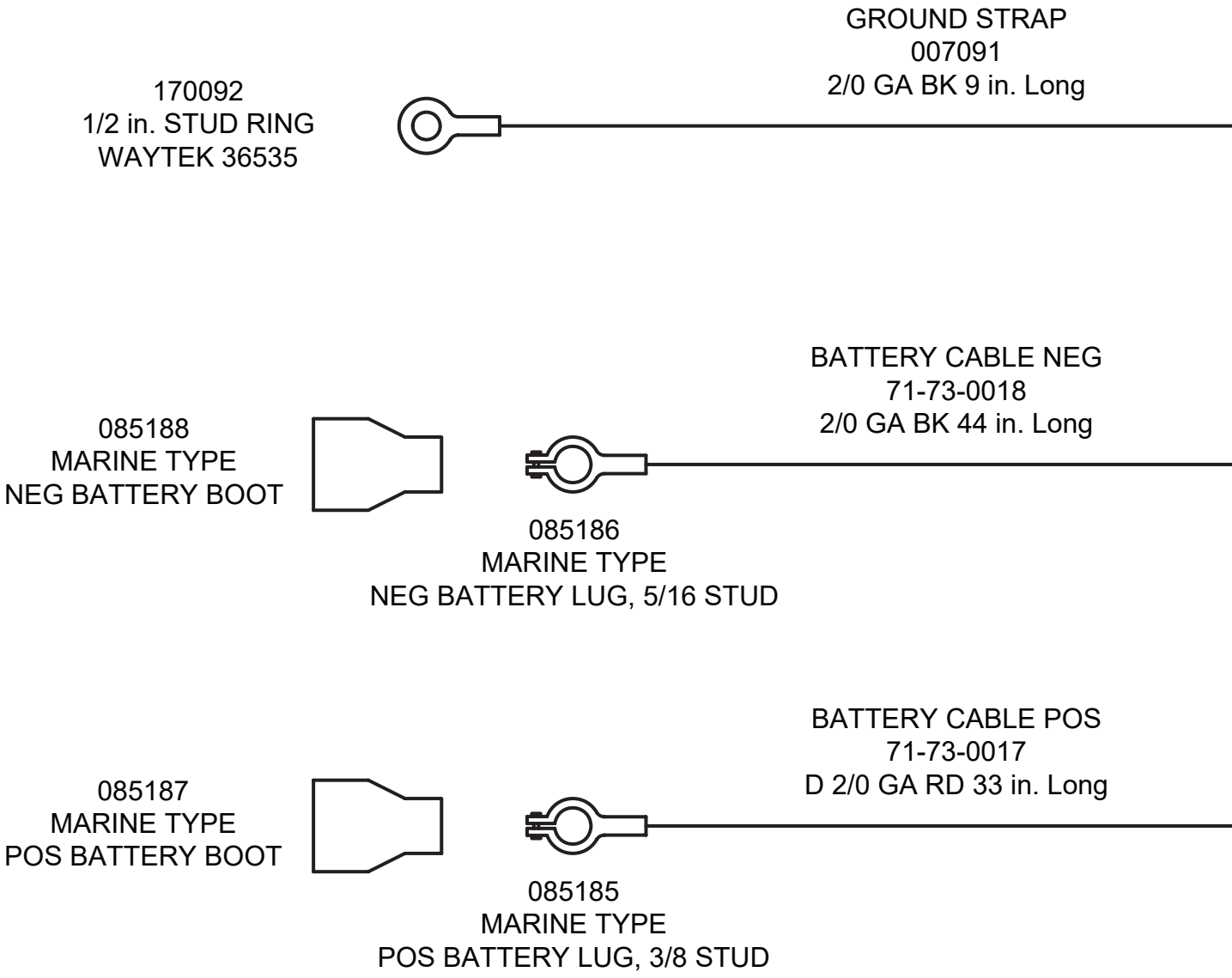
SWITCH UMBILICAL HARNESS (71-73-0007A)



Install Deutsch # 114017
in any unused terminals

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BATTERY CABLE KIT (71-73-0003B)



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

BATTERY CABLE KIT (71-73-0003B)

170093
3/8 in. STUD RING
WAYTEK 36534

170093
3/8 in. STUD RING
WAYTEK 36534

170092
1/2 in. STUD RING
WAYTEK 36535

1/2 inch

3/8 inch

NOTES:
Lengths indicated are center-to-center.
Cable assemblies are to be labeled with part number indicated at both ends.
Ground strap stud rings should be 90° out counter-clockwise when viewed from the 3/8 inch side.

SERVICE BULLETIN 1

SB-105 XA1200 PROGRAM UPDATE

Action Number	Product Affected	Implementation Date
SB-105 Rev. A	XA1200 Applicators, serial numbers listed below	12/01/2019

Serial Numbers:	0XA1200010101 thru 0XA1200010134
Description:	This bulletin provides guidance on loading the application and configuration files onto the Apex XA1200 Controller Master Display.
Labor Hours:	1 hour
Tools Needed:	• Basic hand tools • USB flash drive (provided by Apex)

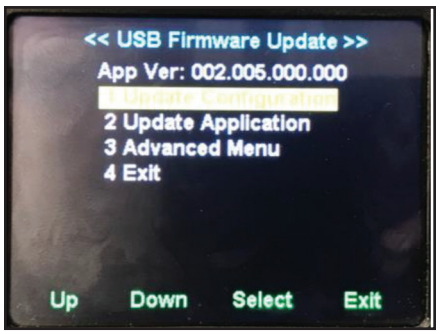
INFORMATION

1. Locate and remove the display mounting plate bolts at the control box.

2. Once the display has been removed, locate the USB dongle, labeled Plug 703, Pilot VI Datalink, and unscrew the cap. This will expose the USB port.

3. Press and hold the two buttons on the display (as shown at right) and turn the ignition key to the ON position.

4. The USB FIRMWARE UPDATE screen will be displayed.



SERVICE BULLETIN 1

INFORMATION (CONTINUED)

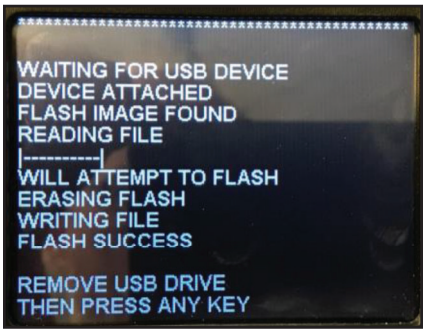
5. Once prompted with the USB FIRMWARE UPDATE screen, install the flash drive into the USB port as shown.

6. Using the UP and DOWN keys, select UPDATE APPLICATION and press the SELECT key.

   Note: The READING FILE message will appear and the Apex controller will begin loading the files from the flash drive. This may take several minutes.

7. Once the 'LOADING' process is complete, turn the ignition switch to the OFF position.

   Note: DO NOT remove the flash drive from the USB connector.



8. Press and hold the two buttons on the display (as shown at right) and turn the ignition key to the ON position.

9. Using the UP and DOWN keys, highlight UPDATE CONFIGURATION and press the SELECT key. This will begin loading the new configuration.

10. Once the UPDATE CONFIGURATION process is complete, press any key to return to the USB FIRMWARE UPDATE screen.

11. Turn the ignition key to the OFF position.

12. Remove the flash drive from the USB port.

13. Reinstall the display into the mounting box.

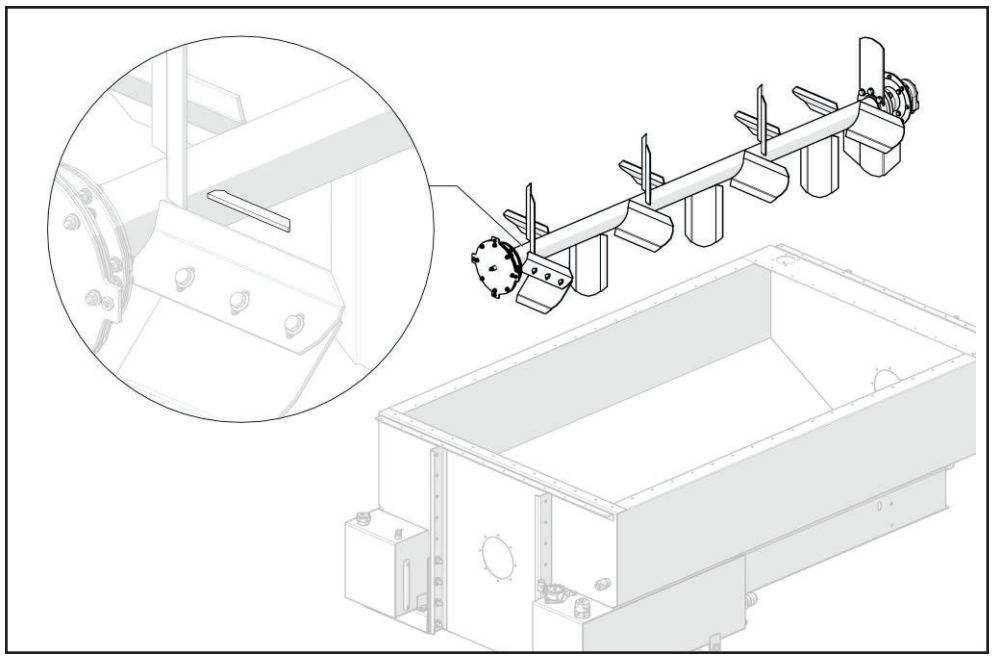
14. The applicator is ready for use.

SERVICE BULLETIN 2

SB-117 XA1200 AGITATOR PADDLE GUSSET

Action Number	Product Affected	Implementation Date
SB-117	XA1200 Applicators	04/06/2020

Serial Numbers:	0XA1200010101 thru 0XA1200010134
Description:	This bulletin details adding a gusset to the wiper paddle on the agitator of an XA1200 applicator.
Tools Needed:	• Basic hand tools • MIG welder or stick welder (400 amp output) • Low hydrogen electrodes (e.g. ER70S-6. E7018 etc) • Tape measure • Repair kit (SB-117)



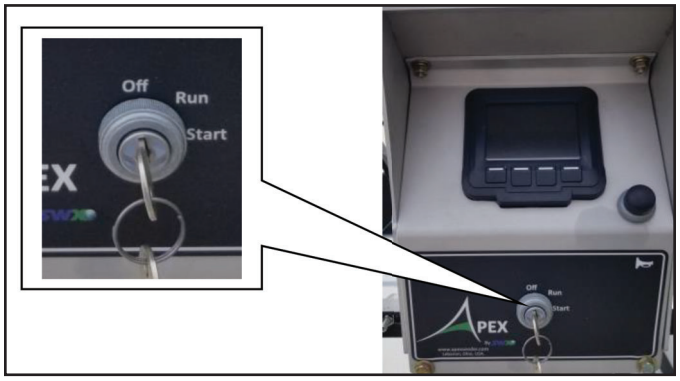
INFORMATION

⚠ WARNING ***Be sure to follow appropriate lockout/tagout procedures when performing this task.***

SERVICE BULLETIN 2

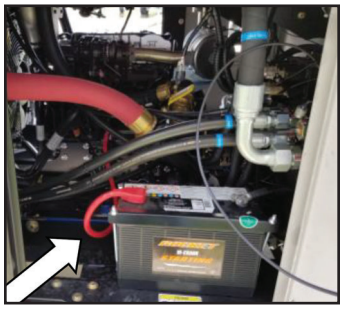
INFORMATION (CONTINUED)

1. Rinse, drain and clean the inside of the slurry tank.
2. Move the engine ignition switch to the OFF position.

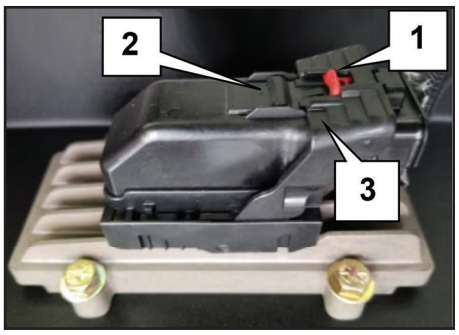


3. Disconnect the Apex display by removing the connector from the bottom of the Operator Control Box.

4. Disconnect the battery, located on the right side of the unit, behind the engine door.
5. Remove the positive battery cable from the battery.



6. Disconnect the engine Apex microcontroller. Locate the microcontroller plug, above the battery.
7. Slide the red button (item 1) to the left.
8. Depress the button (item 2) to allow the clasp to raise.
9. Raise the clasp to remove the controller connector.



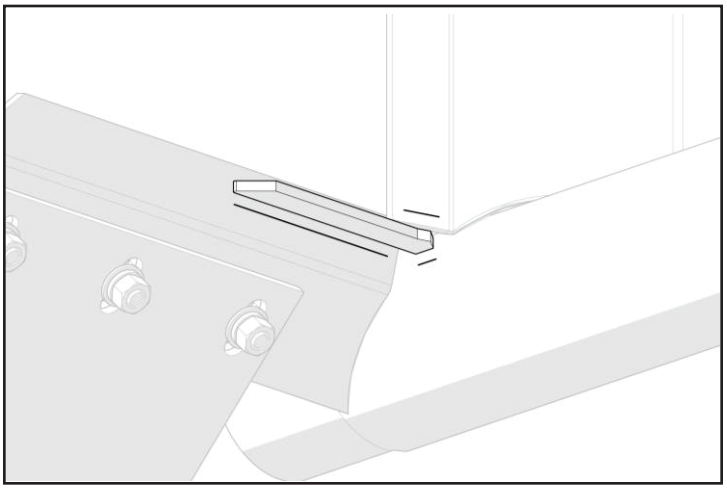
10. Disconnect both connectors on the engine ECU.
11. Depress item 1 to allow the clasp (item 2) to raise.
12. Raise the clasp to remove the connector from the Microcontroller.
13. Open the tank hatch and insure good ventilation inside by using a fan.
14. Inspect the weld on the front agitator paddle where it meets the pipe. Repair any cracks by grinding out the weld and applying a 3/8 weld completely around the paddle.

    Note: Make the ground connection of the welder directly to the paddle.

SERVICE BULLETIN 2

INFORMATION (CONTINUED)

15. Position the gusset (part number 71-11-0064) as shown in the illustrations below, marking all surfaces that the gusset contacts on the front paddle, the tail of the second paddle, and the pipe.



16. Prep the marked areas by removing paint and debris.
17. Weld the gusset into place using 1/4 in. fillet weld around the entire gusset.

18. Inspect the welds on all paddles and repair as described in step 14.
19. Wire brush any welded areas and recoat with paint.
20. Reconnect all electrical components.
21. Reconnect the battery, positive cable first.