Gehl 4640E Power2
Gehl 5240E Power2
Mustang 2056
Series II

with Tier 4i Yanmar 4TNV98-ZNMS2 Engine

Form No.
50950037
Revision A
02/12

SKID-STEER LOADERS







Service Manual

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SPECIFICATIONS

Model	**4640E Power2**
Make of Engine	Yanmar
Engine Model	4TNV98-ZNMS2
Fuel	Diesel
Displacement	202 CID (3,31 L)
Horsepower - Net	68 hp (51 kW)
Peak Torque	180 lbf-ft (244 N•m)
Operating Load - SAE*	1650 lbs (748 kg)
Operating Weight	6300 lbs (2858 kg)
Shipping Weight	5700 lbs (2585 kg)
Capacities	**Capacities**
Engine Oil	9.0 US qts (8,5 L), 9.5 US qts (8,5 L) with filter change
Fuel Tank	14.0 US gal (53 L)
Chaincase (each)	8.0 US qts (7,57 L)
Hydraulic Reservoir	15.0 US gal (56,8 L)
Engine Coolant	9.7 US qts (9,18 L)
Electrical System	**Electrical**
Battery	12-V DC, Group 31, 950 CCA, 170 Reserve
Starter	12-V DC (2,0 kW)
Alternator	95 A
Hydraulic System	**Hydraulic System**
Hydraulic System Pressure	2750 PSI (190 bar): High-Flow 2600 PSI (179 bar)
Standard Auxiliary Flow Rate	19 gal/min (72 L/min)
High-Flow Auxiliary Flow Rate	30 gal/min (114 L/min)
Travel Speed - Single-Speed	0 to 8.4 mph (0 to 13,5 km/h)
Travel Speed - Two-Speed	0 to 12.5 mph (0 to 20 km/h)
Tire Options	**Tire Options Description**
10 X 16.5 Heavy Duty 8-Ply	Flotation Wide Sidewall
10 X 16.5 Heavy Duty 8-Ply	Flotation Wide Sidewall Foam-Filled
12 x 16.5 Heavy Duty 10-Ply	Flotation Wide Sidewall
12 x 16.5 Heavy Duty 10-Ply	Flotation Wide Sidewall Foam-Filled
33 x 15.50 x 16.5 12-Ply	Extra Wide / Wide Sidewall
31 x 15.50-15	Heavy Duty
10 x 16.5 10-Ply	H/E Severe Duty
10 x 16.5 10-Ply	H/E Severe Duty Foam-Filled
12 x 16.5 12-Ply	H/E Severe Duty
12 x 16.5 12-Ply	H/E Severe Duty Foam-Filled
10 x 16.5	Solid Flex
12 x 16.5	Solid Flex
8.00 x 16	Solid Rubber
Buckets and Capacities	
Width - inches (millimeters) - Description	**Capacity (Heaped)**
60 inches (1524 mm) - Dirt/Construction	11.0 cubic feet : 0,31 cubic meters
61.5 inches (1562 mm) - Dirt/Construction	11.3 cubic feet : 0,32 cubic meters
66 inches (1676 mm) - Dirt/Construction	15.1 cubic feet : 0,43 cubic meters
66 inches (1676 mm) - Dirt/Construction w/ spillguard	18.0 cubic feet : 0,51 cubic meters
70 inches (1778 mm) - Dirt/Construction	16.1 cubic feet : 0,46 cubic meters
66 inches (1676 mm) - Utility/Snow	19.0 cubic feet : 0,54 cubic meters
70 inches (1778 mm) - Utility/Snow	20.3 cubic feet : 0,57 cubic meters
15.75-19.68-24 inches (400-500-610 mm) Pallet	NA

*Operating capacity rated with a 66" inch (1676 mm) 15.1 cubic foot (0.43m^3) dirt/construction bucket in accordance with SAE J818, SAEJ732 and ISO 14397-1.

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General Information

The above safety alert symbol means: ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! It stresses an attitude of "safety awareness" and can be found throughout this service manual and on decals on the machine.

Before operating or working on this machine, read and study the following safety information. In addition, be sure that everyone who operates or works on this equipment is familiar with these safety precautions. It is essential to have competent and careful operators, who are not physically or mentally impaired, and who are thoroughly trained in the safe operation of the machine and the handling of loads. It is recommended that the operator be capable of obtaining a valid motor vehicle operator's license.

The use of skid-steer loaders is subject to certain hazards that cannot be eliminated by mechanical means, but only by exercising intelligence, care and common sense. Such hazards include, but are not limited to, hillside operation, overloading, instability of the load, poor maintenance and using the equipment for a purpose for which it is not intended or designed.

Manitou Americas ALWAYS considers the operator's safety when designing its machinery and guards exposed moving parts for the operator's protection. However, some areas cannot be guarded or shielded in order to assure proper operation. Furthermore, the Operator's Manual and the decals on the machine warn of additional hazards and should be read and observed closely.

These topics in the *Safety* chapter of the service manual include procedures, which, when followed, will allow safe performance of service procedures: Mandatory Safety Shutdown Procedure, Lift Arm Support Device, Roll-Over Protective Structure (ROPS)/Falling Object Protective Structure (FOPS) Lock Mechanism, Loader Raising and Lowering Procedures, and Relieving Hydraulic Pressure.

Signal Words

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. May also alert against unsafe practices.

Additional Safety Reminders



Read and understand the Service Manual and all decals before maintaining, adjusting or servicing this equipment.

Doors, Guards and Shields - Some photographs in this manual may show doors, guards and shields open or removed for illustrative purposes only. BE SURE all doors, guards and shields are in their proper operating positions before starting engine to operate unit.

Damaged or Worn-out Parts - For safe operation, replace damaged or worn-out parts with genuine Gehl/Mustang service parts, before operating this equipment.

Attachments - Gehl and Mustang loaders are designed and intended to be used only with Gehl/Mustang Company attachments or approved referral attachments. The Company cannot be responsible for operator safety if the loader is used with a non-approved attachment.

Battery Safety - To avoid injury from a spark or short circuit, disconnect the negative (-) battery cable before



servicing any part of the electrical system. Do not tip the battery more than 45º to avoid spilling electrolyte.

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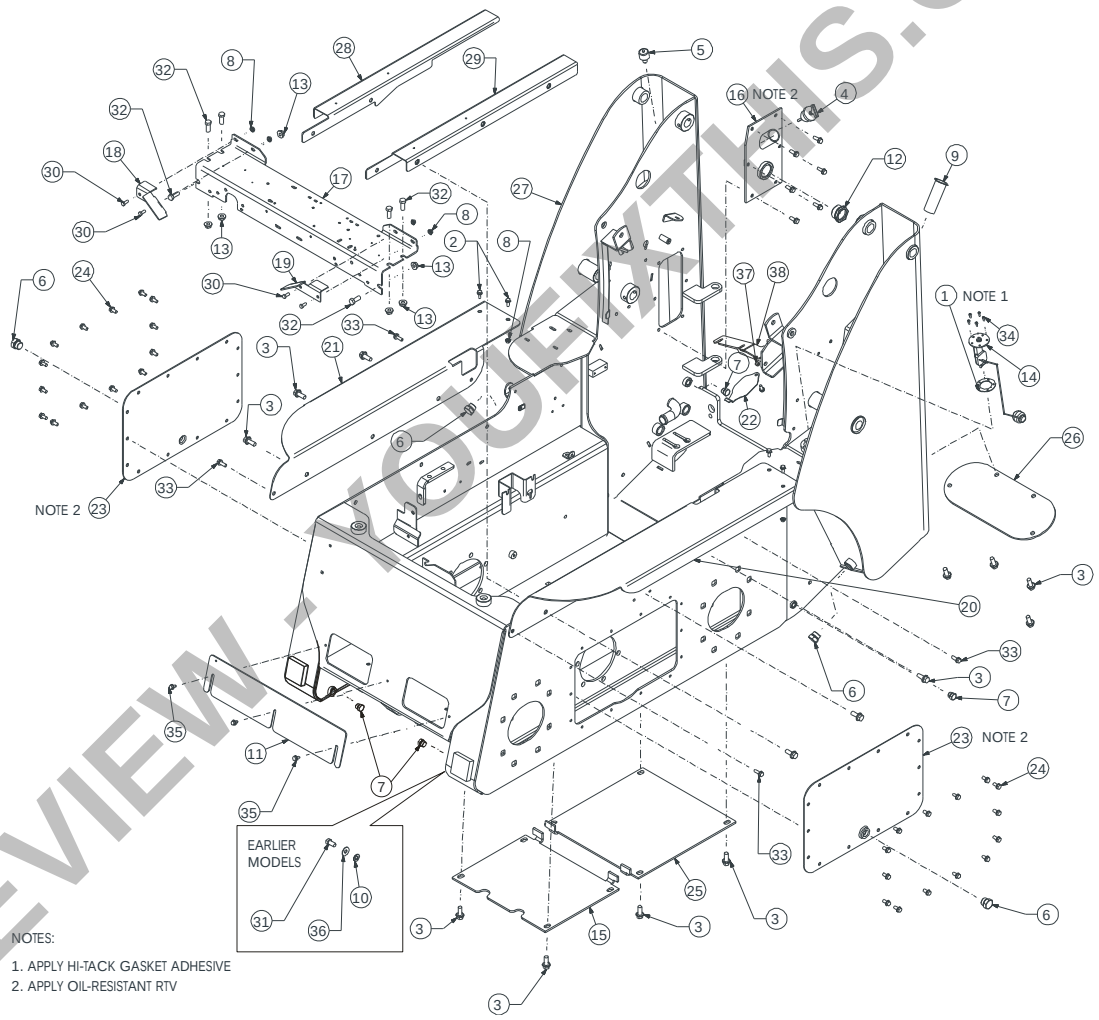
Introduction

Gehl 4640E/5240E Power2 and Mustang 2056 Series II model skid-steer loaders have a welded steel chassis. Maintenance, service and repair may be performed through standard access panels.

Two side chaincases provide mounting for the drive motors and for the front and rear axles. The side cases also serve as sealed housings for the drive chains and sprockets. Oil is used inside these cases to ensure the chains always receive proper lubrication.

The lift arm and the lift and tilt cylinders are mounted with pivot pins. Capscrews are used to secure the pivot pins. A Roll over Protective Structure/Falling Object Protective Structure (ROPS/FOPS) is standard for operator safety, and both the seat and restraint bar include interlock switches.

Mainframe (Chassis) Components - 4640 Models



1	GASKET/FUEL SENDER	11	COVER/TOEPLATE	21	FENDER/RIGHT	31	SCREW/CAP
2	SCREW/CAP	12	SIGHT PORT/OIL LEVEL	22	PLATE/COVER	32	SCREW/CAP
3	SCREW/CAP	13	NUT/SPIRALOCK™	23	COVER/CHAINCASE	33	SCREW/MACHINE
4	CAP/HYD. RESERVOIR	14	FUEL SENSOR/VDO	24	SCREW/TAPPING	34	SCREW/MACHINE
5	BREATHER/HYD. RES.	15	BELLYPAN/FRONT	25	BELLYPAN/REAR	35	SCREW/CAP
6	PLUG	16	COVER/HYD. RES.	26	COVER/ACCESS	36	WASHER/FLAT
7	PLUG	17	PLATE/CROSSMEMBER	27	CHASSIS	37	NUT/LOCK
8	NUT/SPIRALOCK™	18	COVER/SEAT RIGHT	28	FILLER/ROPS RIGHT	38	BRACKET/AIR
9	STRAINER/FUEL FILL	19	COVER/SEAT LEFT	29	FILLER/ROPS LEFT		CLEANER
10	WASHER/SEAL	20	FENDER/LEFT	30	SCREW/CAP		

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Lift Arm Support Device

WARNING

BEFORE leaving operator's compartment to work on loader with lif t arm raised , ALWAYS engage lift arm support device. Turn keyswitch to OFF, remove key and take it with you.

Many service procedures require a raised li ft arm to allow easier access to loader components. For operator and service personnel safety, a lift arm support device is standard on Gehl and Mustang skid-steer loaders. Used as a cy linder block, it helps prevent a ra ised lift arm from unexpectedly lowering.

BE SURE to engage the lif t arm support device whenever the lift arm is raised. When the device is not being used, secure it to the anchor on the underside of the lift arm using the lock pin and retainer provided.

The lift arm s upport device is a s afety device which must be kept in proper operating condition at all times.

The following procedures outline the corr ect way to engage and disengage the lift arm support device.

Lift Arm Support Device Engagement

1. Lower lift arm until contact with loader frame.
2. Turn keyswitch to OFF position to stop engine.
3. **Gehl Models**: Leave operator's compartment. Press in and hold lock pin button to release its locking mechanism. Remove lock pin holding support device up against lift arm. Allow support device to come down into contact with lift cylinder.



4. **Mustang Models**: Leave operator's compartment. Remove lock pin holding support device up against lift arm. Allow support device to come down into contact with lift cylinder.





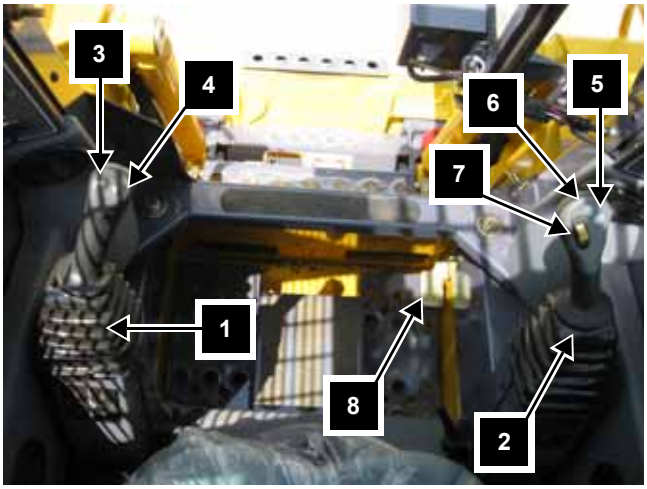
5. Return to the operator 's compartment and restart the engine.
6. Use lift control to raise lift arm until lift arm support device drops over the end of the lift cylinder and around cylinder rod. Slowly lower lift arm until free end of support device contacts top end of lift cylinder.



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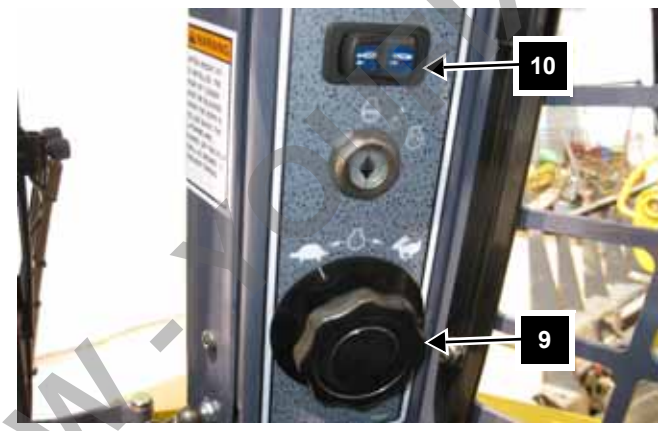
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Control Locations - Dual Joysticks

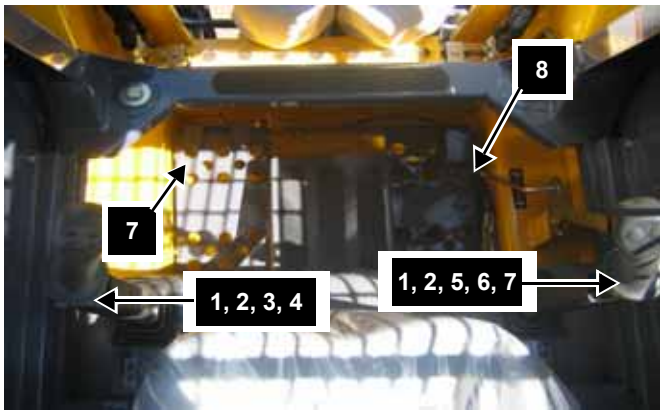




1 - Drive Control
2 - Lift/Tilt Control
3 - Two-Speed Button Switch
4 - Horn Button Switch
5 - Hydraglide™ Control Switch
6 - Float Control Switch
7 - Auxiliary Hydraulics Switch
8 - Foot Throttle
9 - Hand Throttle Dial
10 - High-Flow Aux. Flow Control
11 - Aux. Hyd. Lock Button



Control Locations - Dual Hand



1 - Drive Control
2 - Lift/Tilt Control
3 - Two-Speed Button Switch
4 - Horn Button Switch
5 - Hydraglide™ Control Switch
6 - Float Control Switch
7 - Auxiliary Hydraulics
8 - Foot Throttle
9 - Hand Throttle Dial
10 - High-Flow Aux. Flow Control

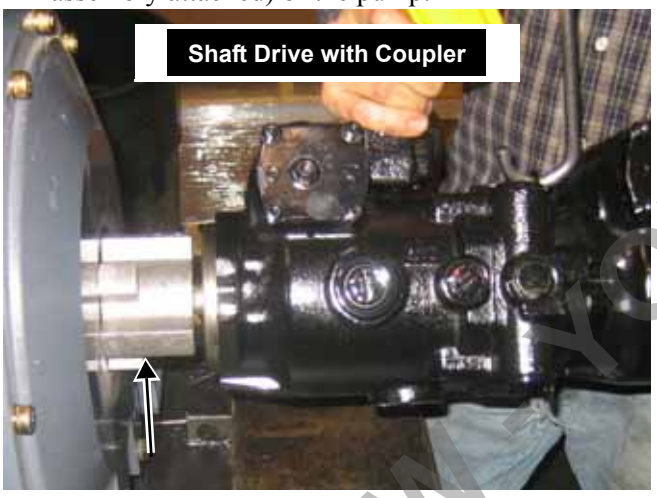
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8. Remove the two capscrews securing the hydrostatic pump to the flywheel housing.



9. Shift the hydrostatic pump forward to disengage the splined shaft drive (with a part of the coupler assembly attached) of the pump.



10. Lift and maneuver the hydrostatic pump out of the skid-steer loader.

Installation Procedure - Follow all warnings first, then reverse the removal steps.

Hydrostatic Pump Drive Coupling Removal and Installation

Removal Procedure

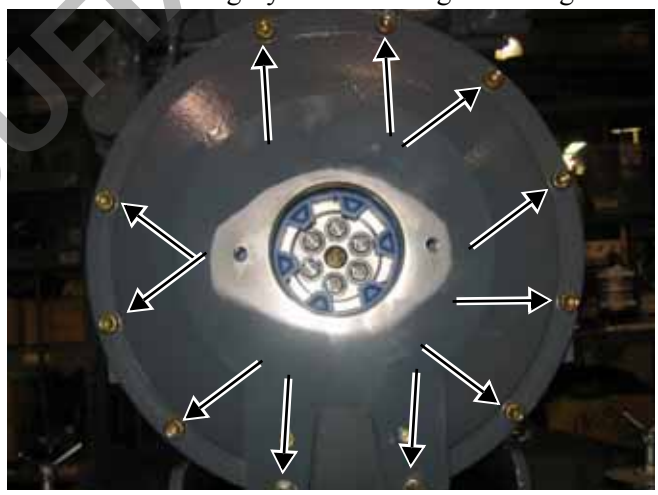
WARNING

BEFORE beginning this service procedure, perform the following SAFETY procedures:

- **Remove attachment from lift arm. Raise lift arm, engage lift arm support device.**
- **Shut off the engine.**
- **Tilt back ROPS/FOPS until lock engages.**

(For detailed instructions, refer to the *Safety* chapter of this manual.)

1. Remove the hydrostatic pump per the procedure in this chapter.
2. Remove nine socket head screws and two cap screws securing flywheel housing to the engine.



3. Remove the eight socket head capscrews attaching the flywheel coupling plate to the flywheel.

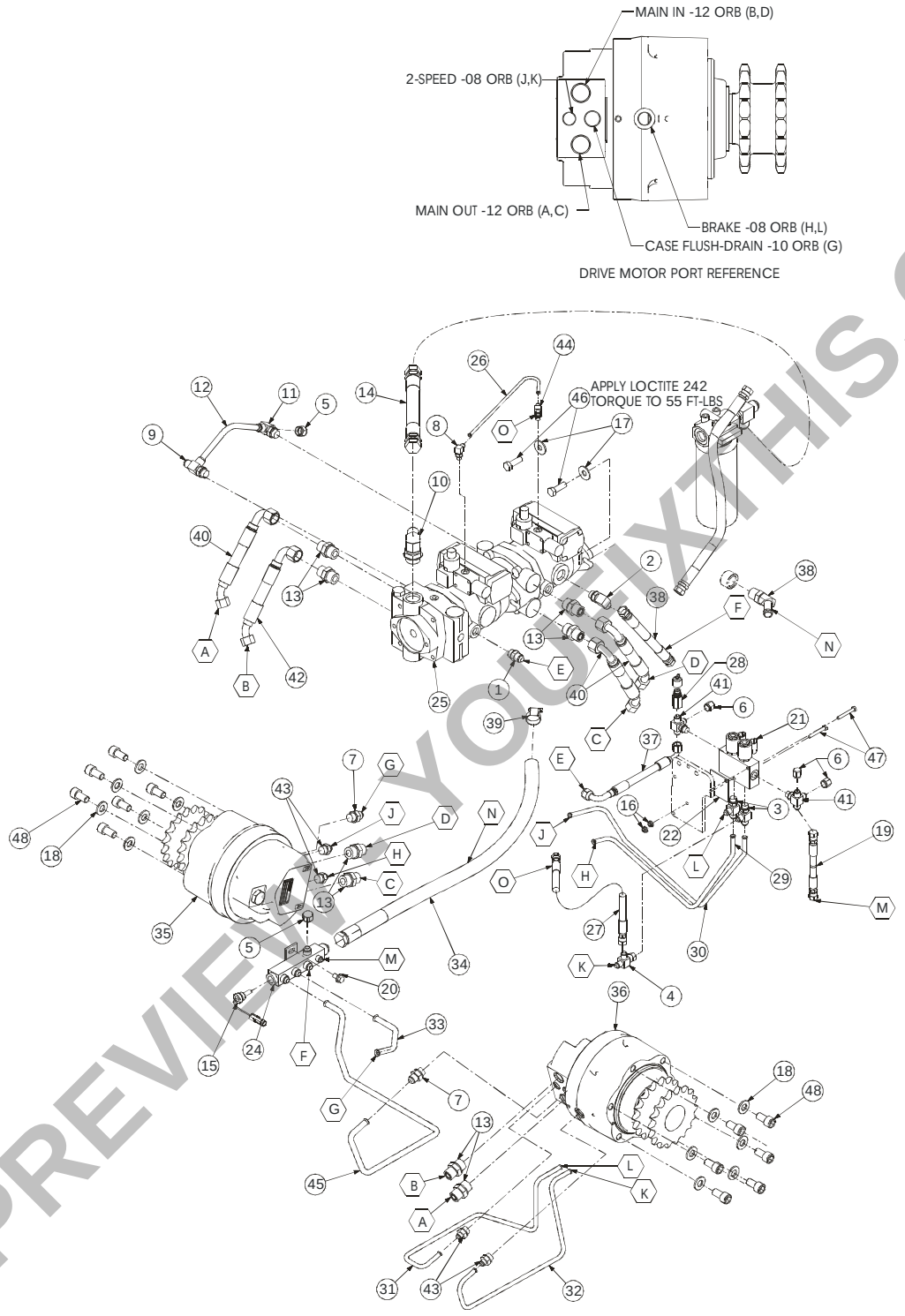


Installation Procedure - Follow all warnings first, then reverse the removal steps.

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Two-Speed Hydrostatic Components - T-Bar, Hand/Foot, Dual Hand and T-Bar/Joystick

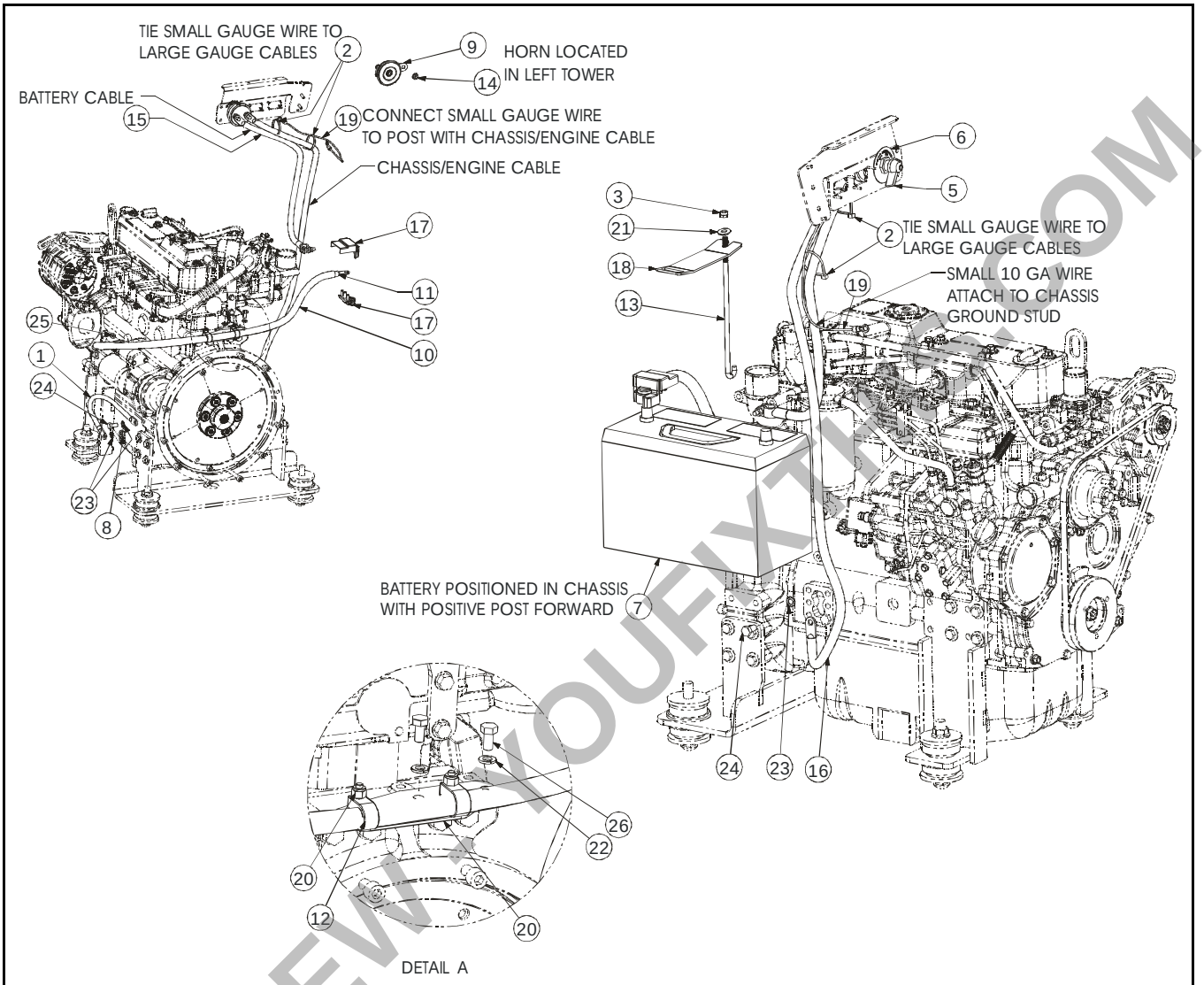


1 FITTING/STRAIGHT
2 FITTING/90°
3 FITTING/TEE
4 FITTING/TEE
5 CAP
6 CAP
7 FITTING/STRAIGHT
8 ADAPTER/90°
9 FITTING/TEE
10 FITTING/90°
11 FITTING/TEE
12 TUBE/CHARGE
13 FITTING/STRAIGHT
14 HOSE/PRESSURE
15 SWITCH/TEMP.
16 NUT/SPIRALOCK™
17 WASHER/FLAT
18 WASHER/FLAT
19 HOSE/PRESSURE
20 SCREW/CAP LOCK
21 MANIFOLD/VALVE
22 PLATE/SPACER
23 HOSE/PRESSURE
24 MANIFOLD/RETURN
25 PUMP/TANDEM
26 TUBE/TANDEM PUMP
27 HOSE/PRESSURE
28 PORT/TEST
29 TUBE/2-SPEED MOTOR
30 TUBE/MOTOR BRAKE
31 TUBE/2-SPEED MOTOR
32 TUBE/MOTOR BRAKE
33 TUBE/DRAIN
34 HOSE/MANIFOLD
35 MOTOR/2-SPEED
36 MOTOR/2-SPEED
37 HOSE/PRESSURE
38 FITTING/45°
39 CLAMP/HOSE
40 HOSE/PRESSURE
41 CROSS/TEE
42 HOSE/PRESSURE
43 FITTING/STRAIGHT
44 FITTING/TEE
45 TUBE/MOTOR DRAIN
46 SCREW/CAP
47 SCREW/CAP
48 SCREW/CAP

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Electrical Battery Disconnect Switch Components - 5240 and 2056 Models



1 CABLE/BATTERY
2 TIE/CABLE
3 NUT/HEX WHIZLOCK
4 NUT/HEX LOCK
5 SWITCH/DISCONNECT
6 PLATE/FACE
7 BATTERY/12 VDC WET 950 CCA
8 NUT/SPIRALOCK™
9 HORN/WARNING
10 LOOM/BATTERY CABLE
11 CABLE/BATTERY/POSITIVE
12 CLAMP/TUBE
13 ROD/BATTERY HOLDDOWN
14 NUT/LOCK
15 CABLE/BATTERY/NEGATIVE
16 CABLE/BATTERY/NEGATIVE
17 ASSY/POSITIVE/POST
18 HOLDER/BATTERY
19 CABLE/GROUND
20 BRACKET/POWER CABLE ASSY
21 WASHER/FLAT
22 WASHER/LOCK
23 WASHER/LOCK
24 SCREW/CAP
25 NUT/HEX
26 SCREW/CAP

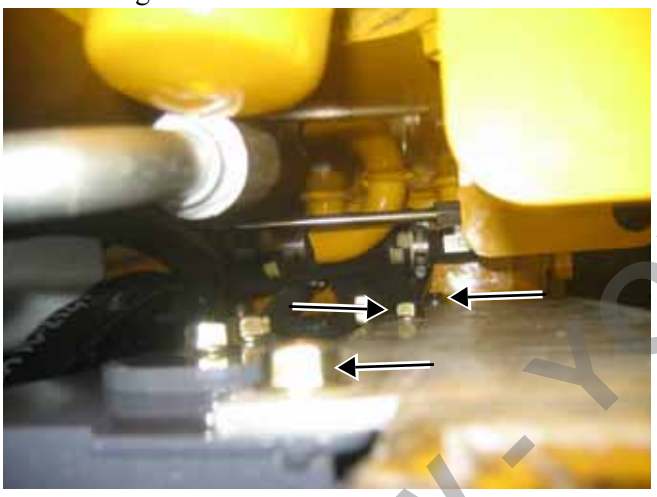
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6. Remove remote radiator overflow line at the top of the radiator.



7. Remove three locking capscrews on each side securing the radiator/oil cooler to the fan shroud.



8. Using a suitable hoist, remove the radiator/oil cooler from the skid-steer loader.



Installation Procedure - Follow all warnings first, then reverse the removal steps.

WARNING



NEVER use your hands to search for hydraulic fluid leaks. Use a piece of cardboard or paper. Escaping fluid under pressure can be invisible and penetrate the skin causing serious injury. If any fluid is injected into your skin, see a doctor at once. Injected fluid MUST be surgically removed by a doctor familiar with this type of injury or gangrene may result.

WARNING



ALWAYS wear safety glasses when checking for hydraulic fluid leaks. Escaping fluid under pressure can be invisible and can cause permanent eyesight damage if safety glasses are not worn.

9. ALWAYS check for hydraulic fluid leaks after installing any components of the hydraulic system.

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