

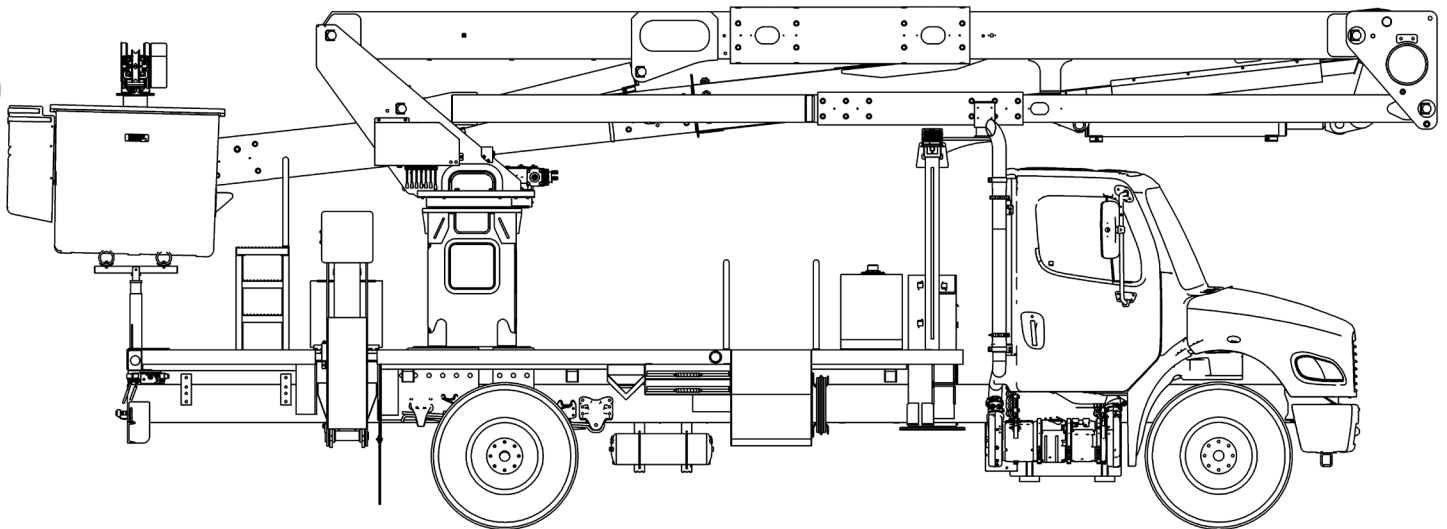


TEREX®

TECH TIPS

CLEANING THE HYDRAULIC SYSTEM

NO. 196



**SERVICE CALL:
CLEANING THE HYDRAULIC
SYSTEM**




**MODEL(S):
ALL TEREX UTILITIES EQUIPMENT**




**TOOLS NEEDED:
FILTERS
FILTER CART
PRESSURE GAUGE**

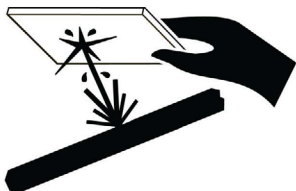
TEREX UTILITIES TECHNICAL SUPPORT TEAM

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**WARNING**



Injection Hazard
Fluid escaping under pressure can penetrate skin and result in death or serious injury.



Relieve pressure before disconnecting hydraulic lines.
Stay clear of leaks and pin holes. Use a piece of cardboard or wood to search for leaks. Do not use hand.
Fluid injected into skin must be surgically removed within a few hours by a doctor familiar with this type of injury, or gangrene will result.



DANGER

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury.

Many of the hazards identified in the Operator's Manual are also safety hazards when maintenance and repair procedures are performed.

DO NOT PERFORM MAINTENANCE UNLESS:

- ✓ You are trained and qualified to perform maintenance on this machine.
- ✓ You read, understand and obey:
 - manufacturer's instructions and safety rules
 - employer's safety rules and worksite regulations
 - applicable governmental regulations
- ✓ You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this Tech Tip is a supplement to the Service Manual. Consult the appropriate Service Manual of your machine for safety rules and hazards.



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INTRODUCTION

The hydraulic system can require cleaning for contamination that has been introduced into the system externally, from the failure of components in the system, or the failure to replace filters when they are in bypass.

Depending on the unit, the number of filters on the machine may vary. Pilot and radio-controlled units will have a high-pressure filter which cleans the oil as the oil goes from the pump to the hydraulic control system. If the oil is too cold the filter may be in bypass until the oil warms up. Pilot and radio-controlled systems will also have a return filter.

Full pressure systems will normally only have return line filters to remove contamination before it goes back into the reservoir.

The system can be cleaned using the filters in the system or using a separate filter cart.

Note: Have an ample supply of filters on hand to change as needed.

Cleaning the oil with system filters

Terex supplied filters have synthetic elements with a high Beta ratio and high efficiency to remove small particles. These qualities allow the filters to clean contamination quickly until they go into bypass. Other filters may not provide the same quality of filter elements.

Cleaning the oil with a filter cart

A filter cart with high efficiency filters can be used by connecting the return lines to the filter cart. If water is suspected in the system, a filter cart with desiccant filters to trap the water should be used.

Removing water with a filter cart

If the filter cart is used to remove water, the flow must be at low to allow the desiccant time to absorb the water.

Drain or suction the bottom of the reservoir to remove any water that has separated from the oil.

Cycle all the oil in the reservoir first, then cycle the cylinders to fill with clean oil.

STEP 1

Install a pressure gauge (P/N 456258) in the return filter to monitor the filter condition. When the pressure gauge reads 20 psi, the filter should be changed. The filter will go into bypass at 25 psi, no longer filtering the oil.

Pressure filters must also be monitored for pilot and radio control units such as the TM. They have a pop-up indicator, replace when indicated.

STEP 2

Verify the hydraulic reservoir is full of the proper oil. Filter any oil added to the reservoir.



If the system is severely contaminated and functions do not operate properly, it may require some disassembly and cleaning.

STEP 3

Start the unit and allow the oil to circulate for 15 minutes. In colder climates, have the unit inside and allow the oil to warm to 50° F before taking the unit outside to operate all the functions fully.

If the oil is too cold the filter may be in bypass until the oil warms up.

STEP 4

Once the oil is warm, cycle each function fully stroking the cylinders, starting with the outriggers.

STEP 5

Cycle each boom cylinder fully from the lower controls, operating only within the allowable range of motion.

STEP 6

Cycle the leveling manually unless it is fully mechanical.

STEP 7

Function the material handling jib and winch.

Note: if the material handling is removeable, disconnect and join the quick couplers together to clean the lines before cycling the cylinders and winch motor.

STEP 8

Operate the auxiliary power to flush the pump and lines.

STEP 9

In all cases, monitor the filter gauge, replacing the filter at 20 psi. Any other filters must be replaced immediately if they go into bypass.

STEP 10

Repeat the procedure a minimum of 3 times.



FOR FURTHER ASSISTANCE,
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