

# Vulcan Heavy Maintenance

## General

The continued operation of your VULCAN towing and recovery unit is largely dependent upon strict adherence to a properly scheduled preventive maintenance program. To help you in this program, VULCAN has provided the following information regarding lubrication, preventive maintenance, hydraulic system and safety devices care.

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## Hydraulic System

The importance of absolute cleanliness of the hydraulic system cannot be over stressed. The smallest amount of grit, metal flake or other foreign material in the system can cause extensive damage to pumps, motors and valves. VULCAN has taken every measure to assure that each component and fitting was thoroughly cleaned before your unit was shipped to you. Therefore, servicing of the system should be done with extreme care.

- (a) Before checking oil level in reservoir, wipe away all dirt, grease and grime around filter cap before removing it. Make certain that all containers, funnels and pouring spouts are absolutely clean before filling reservoir.
  - (b) When replacing hoses, fittings or other components, clean thoroughly, dismantle and reassemble carefully.
  - (c) Failure to observe these precautions, and failure to change the filter element at regular intervals could result in loss of your warranty in the event of failure to certain components.
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## Lubrication & Preventive Maintenance

The following general lubrication and preventive maintenance should be performed at least once per month for moderate usage, or more often as required, for heavy usage.

(a) Inspect, repair or replace any worn, cracked, leaking, otherwise damaged components including, but not limited to, the following:

1. **Hydraulic Hoses and Fittings**
2. **Cables and Fittings**
3. **Cylinders**
4. **Boom End Fittings**
5. **Controls**
6. **Hydraulic Oil Filters**
7. **Oil Reservoir**
8. **Lights and Wiring**
9. **Winches**
10. **Pivot Bearing Surfaces and Pins**

[See Lubrication Charts](#)

(b) Check hydraulic oil level in reservoir and fill to center of sight gauge. Refer to 5.4, part (a), SUMMARY OF REQUIRED LUBRICANTS for recommended oils to use.

(c) Replace hydraulic oil filters after first week of operation, then every three (3) months thereafter.

(d) Inspect all bolts for tightness and re-tighten as necessary. Vibration and stress may loosen even properly torqued bolts.

(e) Lubricate all grease fittings on the Recovery Boom and Underlift weekly including:

1. **Spade Cylinder Pivots**

2. **Sheaves (fittings in sheave shafts)**

3. **Boom End Swivels (fitting top side of boom swivel)**

4. **Winch Clutches**

5. **Boom Elevation and Extension Cylinder Pivots**

6. **Boom Pivot**

7. **Underlift Pivot**

8. **Tower Pivot**

9. **Underlift Tilt Cylinders (each end)**

(f) All bearing surfaces not equipped with grease fittings should be oiled using SAE 30 oil in a pump can.

(g) Grease boom slide pads with grease with grease fittings located on top of outer boom at heel end second stage only.

(h) Check oil level of winches and fill to level of oil plug located in side plate of gear housing Use SAE 140 general purpose gear oil. Lubricate grease fittings on clutches.

(i) Lubricate winch cables using an oily rag while re-spooling onto drum. Other special cable lubricants are available which have better penetrating qualities. Consult your local oil company for a list of these.

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## **Summary of Required Lubricants**

### **(a) Hydraulic Oil**

Examples:

1. **Texaco Rando HD 46**

2. **Shell Tellus Oil 46**

3. **Mobil Nuto H46**

4. **Exxon Nuto H46** or Equal

(b) **Winch Worm Gear Oil** - SAE 140 general purpose gear oil.

Examples:

1. **Humble - Pen-O-Led EP #5**

2. **Phillips - Phillips Worm Gear Oil 140**

3. **Shell - Macona #978**

4. **Sinclair - Pennant EP #6**

5. **Standard - Stanogear #5**

6. **Texaco - Maropa #5**

(c) **Grease** - Synthetic Fortified such as Drydene SFG.

(d) **Oil for miscellaneous bearing surfaces** - SAE 30.

(e) **Cable Oil** - SAE 30 or special cable lubricant.

**NOTE:**

**THERE IS NO PRACTICAL WAY TO DETERMINE THE LIFE EXPECTANCY OF HYDRAULIC HOSES AND OTHER RUBBER COMPONENTS. WHILE APPEARING TO BE IN EXCELLENT CONDITION, THESE COMPONENTS MAY BE ADVERSELY AFFECTED BY USAGE, WEATHER OR THE PASSING OF TIME. THEREFORE, IT IS RECOMMENDED THAT ALL RUBBER COMPONENTS, ESPECIALLY HOSES, BE REPLACED EVERY FIVE (5) YEARS REGARDLESS OF APPEARANCE.**

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**Care of Hydraulics in Cold Climate**

When the VULCAN towing and recovery unit are used in seasonal cold climate regions (+208 F and below), the viscosity of the normally recommended 10W40 oil may increase to the point where it adversely affects hydraulic functions during starting and warm-up. If this is the case, it will be necessary to change fluids seasonally to maintain maximum system efficiency and life. Regions subject to continuous sub-zero or arctic climates require special hydraulic fluids. Contact VULCAN or your local supplier for information regarding specific temperature requirements.

**NOTE:**

**THE FOLLOWING LUBRICATION REQUIREMENTS SHOULD BE SERVICED MONTHLY. SERVICE MORE OFTEN IF THE EQUIPMENT IS USED FREQUENTLY.**

