



# UN-Towable Hydraulic Earth Drill

**OPERATORS MANUAL**  
WITH MAINTENANCE AND PARTS INFORMATION

## SAFETY ALERT SYMBOL



The symbol shown above is used to call your attention to instructions concerning your personal safety.

**WATCH THIS SYMBOL** — It points out important safety precautions. It means — **ATTENTION! BECOME ALERT! YOUR PERSONAL SAFETY IS INVOLVED!**

Read the message that follows and be alert to the possibility of *Personal Injury or Death!*



**WARNING:** The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

### 2 YEAR LIMITED WARRANTY

For 2 years from purchase, LITTLE BEAVER, INC. will replace for the original purchaser, free of charge, any part or parts, found upon examination by any factory authorized service center, or by the factory at Livingston, Texas, to be defective in material or workmanship or both. If your equipment can not be repaired, it will be replaced. All transportation charges on parts submitted for replacement under this warranty must be borne by purchaser.

There is no other express warranty.

Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to 2 years from purchase and to the extent permitted by law. Any and all implied warranties are excluded. This is the exclusive remedy and liability for consequential damages under any and all warranties are excluded to the extent exclusion is permitted by law.

\*Notice: Engines are warrantied by the manufacturer of the engine. See separate engine warranty enclosed.

### MACHINE SERIAL NUMBER

The serial number is located on the top side of the frame. For your convenience, when requiring service or parts information, refer to this number and your model number. Record the serial number, model number, engine make and date of purchase in the space provided below:

Serial Number: \_\_\_\_\_

Model Number: \_\_\_\_\_

Engine Make: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_



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## SAFETY INSTRUCTIONS



**DANGER:** Failure to observe safety instructions and reasonable safety practices can cause Property Damage, Serious Bodily Injury and/or Death. BE CAREFUL!! WATCH OUT FOR BYSTANDERS!!



**DANGER:** NEVER run engine inside building or enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.



**DANGER:** NEVER drill holes where there is a possibility of underground power cables or other hazards. The exact location of underground services must be determined prior to drilling. Inadvertent severing of telephone, fiber optic or CATV transmission cable, or damage to sewer pipe is costly; RUPTURING OF GAS OR WATER LINES CAN CAUSE SERIOUS BODILY INJURY AND/OR DEATH. COMING INTO CONTACT WITH BURIED POWER LINES CAN CAUSE SERIOUS BODILY INJURY, SEVERE BURNS, AND/OR ELECTROCUTION. Call local utility companies or your local "One-Call" number at least 48 hours before digging and have underground utilities marked.



**WARNING:** NEVER use hands to search for leaks. Instead, use a piece of cardboard or wood. Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin, causing serious injury. Before disconnecting lines, be sure to relieve pressure. Before applying pressure, be sure connections are tight and fittings and hoses are not damaged.



**WARNING:** KEEP Hands, Feet and Clothing away from moving parts while engine is running.



**WARNING:** Augers are not to be used as anchoring devices.



**WARNING:** ALWAYS store with drill head down on the ground to avoid accidental tipping which may cause serious injury or death.



**CAUTION:**

1. READ and understand this operator's manual and the operator's manual for the engine.
2. NEVER Remove auger from hole while auger is turning.
3. NEVER Operate auger at less than full throttle.
4. NEVER Operate drill with damaged auger or other damaged or missing parts.
5. KEEP All safety shields and devices in place.
6. MAKE Certain everyone is clear before operating the machine.
7. WEAR SAFETY GLASSES.
8. KEEP Bystanders away from work area.
9. SHUT OFF Engine to adjust, service or clean the machine.

## **NOTICE**

It is the responsibility of the contractor, owner and user to maintain and operate the Earth Drill in compliance with operating instructions provided. Observe all listed safety instructions and other reasonable safety practices. LITTLE BEAVER, INC. accepts no responsibility for damages to this machine, and other property damage and/or bodily injury due to careless or improper operations.

LITTLE BEAVER, INC. does not recommend use of replacement hydraulic motors which would result in auger shaft torque greater than 400 ft.-lbs. If greater torque is required, please consult factory.

LITTLE BEAVER, INC. reserves the right to make changes in design and changes for improvements upon its product without imposing any obligation upon itself to install the same upon its products theretofore manufactured.

*Your operators manual offers recommendations for prolonged and satisfactory service.*

## **SPECIFICATIONS**

11 HP (8.9 net) Honda  
6 GPM @ 2500 PSI  
100 Micron Suction Screen  
10 Micron Replaceable Return Line Filter  
3 1/2 Gallon Hydraulic Reservoir





## MAINTENANCE AND LUBRICATION INSTRUCTIONS

**NOTE:** All engines and hydraulic reservoirs are shipped WITHOUT oil.

**ENGINE:** The engine is shipped without oil or gasoline. Refer to the manufacturers instructions for proper procedures and recommended fluid.

**HYDRAULIC FLUID AND FILTER:** The hydraulic reservoir should be filled to the full mark of the dipstick (use the engine oil dipstick to measure the hydraulic oil level) with hydraulic oil before attempting to start the engine. Most premium grade, mineral based oil with antiwear (AW) and anti-foaming additives are suitable. The recommended fluid for normal temperature operation is ISO VG 46 grade fluid. In colder climates use ISO VG 32 grade and in warmer climates use ISO VG 68 grad fluid. The hydraulic oil and return line filter (Part # 30280) must be kept clean at all times, and should be changed after the first 15 hours of operation. The filter and oil should be changed every three months or after 100 hours of operation; whichever comes first. See Figure 1.



Figure 1

**NOTE:** The hydraulic fluid and engine crankcase oil levels should be checked prior to each days use.

**IMPORTANT:** All nuts, fasteners, and fittings must be kept tightened.



**CAUTION:** Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin, causing serious injury. Before disconnecting hydraulic lines, be sure to relieve pressure. Before applying pressure, be sure connections are tight and fittings, pipes and hoses are not damaged. Use a piece of cardboard or wood, rather than hands, to search for leaks. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

**KEEP** all hydraulic lines away from moving parts.

### **HYDRAULIC OIL LEAKAGE**

If any hydraulic oil leakage is encountered, shut down the power source and relieve the hydraulic pressure by moving the actuator lever in both directions. Check and tighten the screw-on fittings on the end of each hose. If the leakage persists, it may be necessary to replace the associated hose assembly. If the valve is leaking around the spool (shaft), you may replace the seal kit (Part # 30275-2).



**NOTE:** To obtain maximum performance from power source, minimum hose size recommended is 3/8".

### **EXCESSIVE HEATING**

Excessive heating is caused by placing too much down pressure on the auger which causes the oil pressure to reach relief pressure. Oil flowing over the relief valve generates the heat.

### **DECAL LOCATION**

The decals (safety sign stickers) which are provided with your machine are shown at the rear of this manual. The decals shown should be in the locations as described. If any of the decals are missing or illegible, order replacement decal kit # 38200-D# and install before operating the machine.



## ASSEMBLY

Unsecure pivot frame, hydraulic tank assembly, and wheels by removing screws and strapping. See Figure 2.



Figure 2

Attach axles, as shown in Figure 3, using  $\frac{1}{4}$ " x  $1\frac{1}{2}$ " bolts and nuts. Attach wheels, as shown in Figure 4, using  $\frac{3}{4}$ " flat washers and  $\frac{1}{4}$ " x  $1\frac{3}{4}$ " cotter pins.



Figure 3



Figure 4

### **PRE-DRILLING SETUP:**

Align the pins of the frame assembly with the slots of hydraulic tank assembly and guide pins in slots as shown in Figure 5 and 6. The hydraulic tank assembly should hang and swing freely from the frame assembly.



Figure 5



Figure 6



## SET-UP cont...

Connect the hydraulic hoses as shown in Figure 7. Be sure to connect the "RETURN" side (connected to return line oil filter) first by aligning the male and female quick disconnects and pushing them together firmly. You should hear or feel a click as the locking collar snaps closed when they are correctly seated. Rotate the locking collar slightly to avoid inadvertent uncoupling. Connect the "PRESSURE" side (connected to top of hydraulic tank) in the same manner.



Figure 7

**SIDE-TO-SIDE ADJUSTMENT:** The drill head may be pivoted up to 10 degrees to each side. Use the swivel lock screw to adjust drill head side-to-side as shown in Figure 8. To swivel the head side-to-side, loosen the swivel lock screw by turning counter-clockwise, pivot the drill head to desired position, tighten the swivel lock screw by turning clockwise.



Figure 8

**DRILL HEAD LOCK:** The drill head may be locked in storage position or unlocked and allowed to swivel freely. Figure 9 shows the drive head in the locked (stored) position. To unlock the drive head, pull the head lock lever toward handle, force the lever out, away from the valve plate as you move the lever away from the handle and past the valve plate. Figure 10 shows the drill head in the unlocked position where the head is allowed to swivel freely. To lock the drill head in storage position, pull the head lock lever toward the handle, past the valve plate, and allow the lever to rest in notch in front of valve plate as shown in Figure 9.



Figure 9



Figure 10



**ACTUATOR LEVER ADJUSTMENT:** The actuator lever link may need to be adjusted if the lever develops an unequal amount of motion for forward and reverse actuation. The actuator lever link may be adjusted by loosening the stop nut from the clevis, disconnecting the clevis from one end, turn the clevis to lengthen or shorten the link, reconnect the clevis, and tighten the stop nut to the clevis (See Figure 11).

## **OPERATION**

**BEFORE STARTING THE ENGINE,** Be sure that:



**DANGER:** NEVER run engine inside building or enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.

- 1) Engine is properly prepared to Manufacturer's specifications. Note: Engines with "Oil Guard" protection must be filled with oil to full mark on dipstick or to point of overflowing to allow the engine to start.
- 2) Hydraulic reservoir is properly filled (see Maintenance and Lubrication Instructions).
- 3) Unlock the drill head and attach the auger to drill head adaptor. Make sure the snap button, in the auger, and hole provided in the adaptor are aligned and the button snaps securely into place.
- 4) Move the machine to the drilling site with the drive head in the locked position. Push the handle downward to a balanced position for moving the machine as shown in Figure 9.
- 5) Make machine set-up adjustments for drilling the hole. If necessary, swivel the handle to the side for drilling, vertical hole on unlevel terrain as shown in Figure 8.
- 6) To drill next to a wall or other structure, position drill with the drill head and auger next to the structure as shown in Figure 11.



Figure 11

**TO START THE ENGINE:** Set the engine throttle lever to the "CHOKE" position and pull the starter rope as shown in Figure 12. The engine should start after 2 or 3 pulls. Set the engine throttle lever to the mid-throttle position and allow the engine to warm up for 2 or 3 minutes. Run engine at full throttle while drilling. **TO STOP THE ENGINE:** Push the engine throttle lever to the "STOP" position as shown in Figure 13.







**DANGER:** NEVER drill holes where there is a possibility of underground power cables or other hazards. The exact location of underground services must be determined prior to drilling. Inadvertent severing of telephone, fiber optic or CATV transmission cable, or damage to sewer pipe is costly; **RUPTURING OF GAS OR WATER LINES CAN CAUSE SERIOUS BODILY INJURY AND/OR DEATH. COMING INTO CONTACT WITH BURIED POWER LINES CAN CAUSE SERIOUS BODILY INJURY, SEVERE BURNS, AND/OR ELECTROCUTION.** Call local utility companies or your local "One-Call" number at least 48 hours before digging and have underground utilities marked.



**CAUTION:** MAKE certain everyone is clear before operating the machine.



**CAUTION:** KEEP hands, feet and clothing away from moving parts while engine is running.



Figure 12



Figure 13

**NOTE:** For forward rotation, pivot the lever clockwise.  
For reverse rotation, pivot the lever counter-clockwise.

There are two methods of operation for drilling with this type of hydraulic earth drill. Since the auger is driven about an arc around the axle, compensation must be made for the arc motion to ensure a vertical hole.

**METHOD I:** Starting with the auger in vertical alignment, the machine must be rolled away from the auger slightly as the auger is advance downward. Conversely, the machine must be rolled toward the auger slightly as the auger is removed upward.

**METHOD II:** Starting with the auger in an angled alignment, the point of the auger should be positioned away from the axle, creating an angle from vertical. Without moving the position of the wheels or axle, advance the auger to the desire depth. At the desired depth, the top of the auger should be in vertical alignment with the botton of the auger. This procedure will allow the removal of the auger from the hole without moving the position of the wheels or axle.

**START THE AUGER TURNING,** By pulling the actuator lever in completely. Always allow the auger to turn at full speed and let it cut its way into the soil.



**IMPORTANT:** When digging in soft soil, hold up slightly on auger. In hard pan, apply pressure, but not enough to stall the auger or slow it down significantly. The auger works best when it turns at full speed.

**NOTE:** Only use reverse to free the auger if it becomes lodged in the ground.

**IF THE AUGER STALLS** repeatedly or slows down significantly; stop the auger by releasing actuator lever, slightly lift up on auger, start auger by pulling actuator lever, and allow the auger to turn at full speed while slowly lowering it to bottom of hole.



**CAUTION:** NEVER Remove auger from hole while auger is turning.

When the desired depth is reached, stop the auger by releasing the actuator lever. Then pull the auger completely out of the hole.



**CAUTION:** Keep the back as vertical as possible by bending the legs, as required, during the operation and lifting procedure.

## **AUGER EXTENSIONS**



**CAUTION:** Stop the engine when making auger/extension connections.

If greater hole depths are required, extensions may be used with the auger. After the auger has reached its maximum depth, stop the engine and disconnect the drive adaptor from the auger which remains in the hole. Connect the extension to the auger as shown in Figure 14. Connect the drive adaptor to the extension and continue to dig the hole.



Figure 14

When the desired depth is reached, stop the engine and disconnect the drive adaptor from the extension then remove the extension(s) and auger from the hole.



**CAUTION:** When working with cutting blade, point and auger flighting; be careful not to be cut by sharp edges.

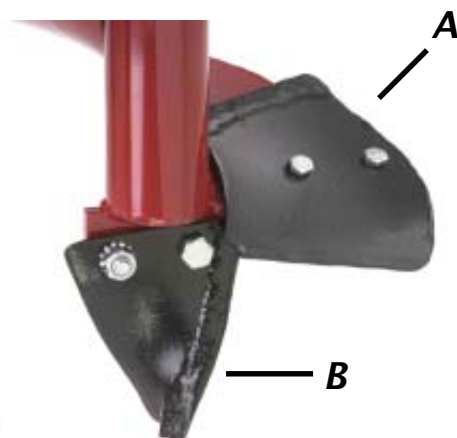


Figure 15

### **CUTTING BLADE**

Check the cutting blade (Item A, Figure 15) on the auger frequently. If it becomes dull, it may be reversed to use the other cutting edge. If the outside of the blade wears even with the auger flighting, replace the blade or rebuild it with a hard surfacing rod. This is very important to reduce auger flighting wear and damage. The point (Item B, Figure 15) should be replaced when it loses its cutting shape.



## **TRANSPORTING**

The drill is designed to be disassembled into manageable components for transport. First, uncouple the quick disconnects between the valve and hydraulic tank assembly. Be sure to couple the quick disconnects of the hose ends to prevent exposure to dirt. Second, rotate pivot locks 270 degrees so they rest on top of pins as shown in Figure 16. Uncouple the hydraulic tank assembly from the frame as shown in Figure 17.



**CAUTION:** Be sure all components are securely tied while transporting.



Figure 16



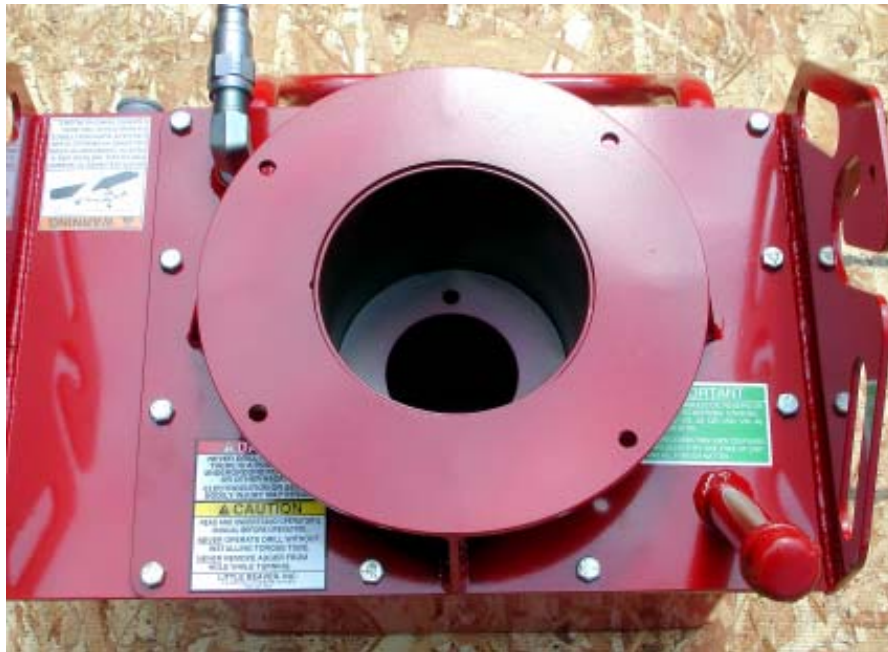
Figure 17



**CAUTION:** Always store drill with the drill head down to prevent accidental tipping as shown in Figure 17.



## DECAL LOCATION



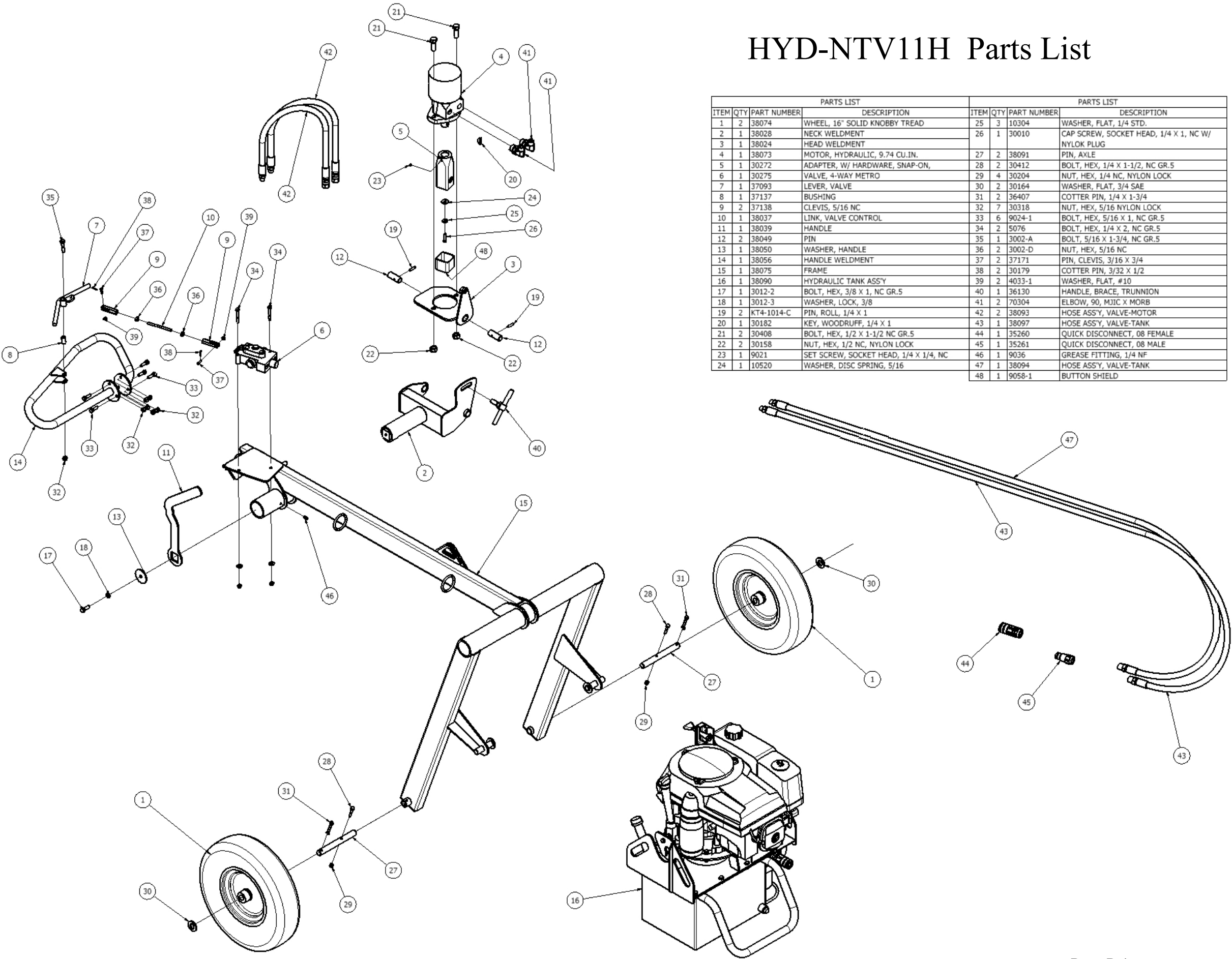


## **TROUBLESHOOTING**

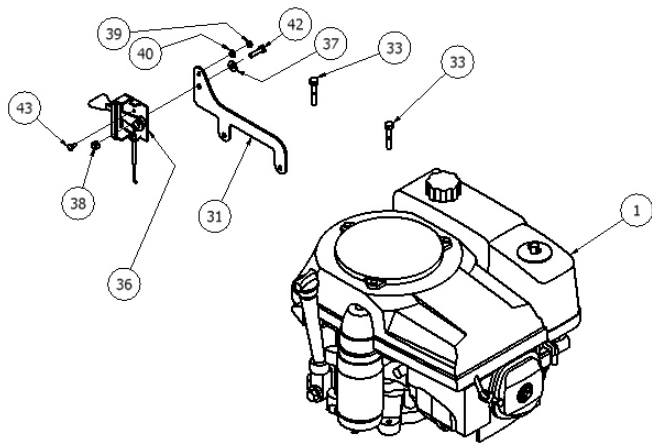
| <b>TROUBLE</b>                                      | <b>CAUSE</b>  |
|---|---|
| Engine will not start                               | 1) Stop switch in off position on handle<br>2) Engine stop switch is in "off" or "O" position<br>3) Low fuel level in gas tank<br>4) Low oil level in "Oil Guard" or "Oil Alert" equipped engines<br>5) Spark plug fouled   |
| Cannont connect or disconnect auger                 | 1) Foreign matter clogging auger adaptor<br>2) Spring and button in top of auger is bent or broken  |
| Auger turns too slowly and will not dig             | 1) Too much downward pressure or binding on side of hole. Hold back if necessary to allow auger to turn at full speed.<br>2) Linkage between control lever and valve is mis-adjusted. With engine off, ensure that neither lever touches handle bar when moved to full forward or reverse position. Re adjust linkage if necessary. |
| Auger turns but will not dig                        | 1) Foreign matter collected around point<br>2) Point or blade is dull<br>3) Wrong blade type for soil condition. Contact your dealer or factory for Little Beaver carbide blade   |
| Auger with extension will not dig                   | 1) Auger or extension bent or running out of line<br>2) Number of extensions exceeds capacity of machine  |
| Hydraulic oil and/or hoses overheats                | 1) It is normal for the hoses and reservoir to be warm to the touch. If it is very hot, consult your dealer or factory.   |
| Auger will not stop turning when lever is released. | 1) Valve or linkage is binding. Do not use. Consult your dealer or factory.   |
| Problems not listed in table                        | 1) Consult your dealer or factory.  |



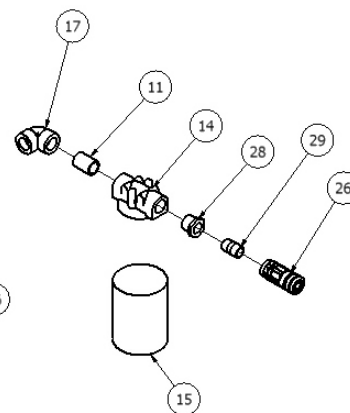
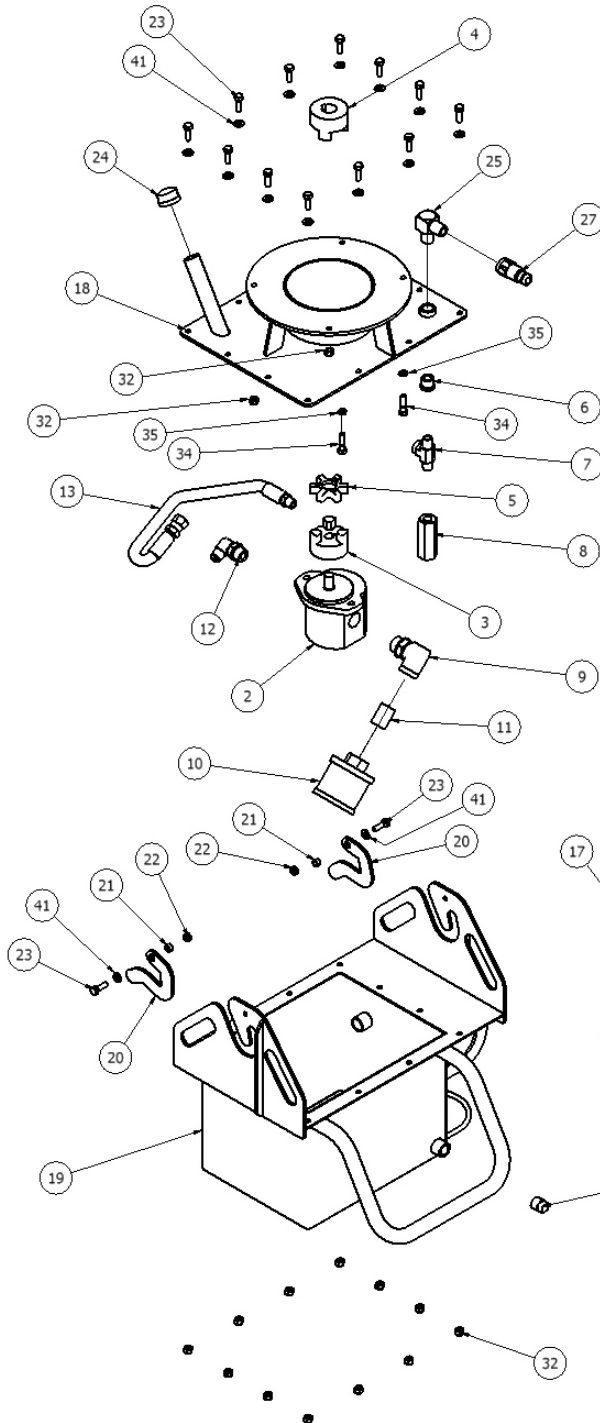
HYD-NTV11H Parts List



HYD-NTV11H Parts List



| 38090 HYDRAULIC TANK ASS'Y |     |             |                                     |
|----------------------------|-----|-------------|-------------------------------------|
| ITEM                       | QTY | PART NUMBER | DESCRIPTION                         |
| 1                          | 1   | 38000       | ENGINE, HONDA, 337 CC VERT. SHAFT   |
| 2                          | 1   | 38072       | PUMP, HYD. GEAR, 7cc DISPL.         |
| 3                          | 1   | 30267-58    | COUPLING, FLEX., 5/8 BORE, PUMP     |
| 4                          | 1   | 30268       | COUPLING, FLEX., 1 BORE, ENGINE     |
| 5                          | 1   | 30269       | COUPLING, FLEX., SPIDER             |
| 6                          | 1   | 30315       | BUSHING, RED., 1/2 X 3/8            |
| 7                          | 1   | 38011       | FITTING, TEE, MP X MP X FP          |
| 8                          | 1   | 30270-R     | VALVE, RELIEF, METRO                |
| 9                          | 1   | 30298       | ELBOW, 90, 6805-12-12-NWO           |
| 10                         | 1   | 30266       | SUCTION FILTER                      |
| 11                         | 2   | 35290       | NIPPLE, CLOSE, 3/4 NPT              |
| 12                         | 1   | 70304       | ELBOW, 90, MJIC X MORB              |
| 13                         | 1   | 38012       | HOSE ASSY, TANK                     |
| 14                         | 1   | 30281       | BASE, FILTER                        |
| 15                         | 1   | 30280       | FILTER ELEMENT, REPLACEMENT         |
| 16                         | 1   | 30317       | DIFFUSER, HYDRAULIC TANK            |
| 17                         | 2   | 30312       | ELBOW, 3/4 NPT, STD.                |
| 18                         | 1   | 38066       | TOP WLDMT., TANK                    |
| 19                         | 1   | 38085       | TANK, HYDRAULIC                     |
| 20                         | 2   | 38088       | BAR, PIVOT LOCK                     |
| 21                         | 2   | 37050       | BUSHING                             |
| 22                         | 2   | 37182       | NUT, HEX, LOCK, 5/16 NC, TOP LOK    |
| 23                         | 14  | 9024-1      | BOLT, HEX, 5/16 X 1, NC GR.5        |
| 24                         | 1   | 38058       | CAP, 3/4 NPT                        |
| 25                         | 1   | 38059       | ELBOW, 90, MP X MP                  |
| 26                         | 1   | 35260       | QUICK DISCONNECT, 08 FEMALE         |
| 27                         | 1   | 35261       | QUICK DISCONNECT, 08 MALE           |
| 28                         | 1   | 30282       | REDUCING BUSHING, 5406-12-08        |
| 29                         | 1   | 30264       | NIPPLE, 1/2 X 1-1/2                 |
| 30                         | 1   | 30159       | PLUG, MAGNETIC, 1/2 NPT             |
| 31                         | 1   | 38069       | PLATE, THROTTLE MOUNTING            |
| 32                         | 14  | 30318       | NUT, HEX, 5/16 NYLON LOCK           |
| 33                         | 2   | 3002-A      | BOLT, 5/16 X 1-3/4, NC GR.5         |
| 34                         | 2   | 9084-2      | BOLT, HEX, 5/16-24 X 1-1/4, NF GR.5 |
| 35                         | 2   | 3002-C      | WASHER, LOCK, 5/16                  |
| 36                         | 1   | 38100       | CONTROL, THROTTLE                   |
| 37                         | 1   | 10304       | WASHER, FLAT, 1/4 STD.              |
| 38                         | 1   | 30204       | NUT, HEX, 1/4 NC, NYLON LOCK        |
| 39                         | 1   | 4034-3      | NUT, HEX, 10-32                     |
| 40                         | 1   | 4033-1      | WASHER, FLAT, #10                   |
| 41                         | 14  | 10305       | WASHER, FLAT, 5/16 SAE              |
| 42                         | 1   | 9024-BP     | BOLT, HEX, 1/4 X 1, NC GR.5         |
| 43                         | 1   | 35303       | SCREW, MACHINE, 10-32 X 1/2         |



## 38090 Hydraulic Tank Assembly Parts List