



Mechanical Earth Drills

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.

1 YEAR LIMITED WARRANTY

For 1 year 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 cannot 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 1 year 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 warranted by the manufacturer of the engine. See separate engine warranty enclosed.

MACHINE SERIAL NUMBER

The machine serial number for your mechanical Earth Drill is located on the carrier. For your convenience, when requiring service or parts information, refer to this number and your model number. Record the model number, engine make, machine serial number and date of purchase in the space provided below:

MODELNUMBER _____ ENGINEMAKE _____

MACHINE SERIAL NUMBER _____ 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 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.



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



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



CAUTION:

1. READ and understand this operator's manual and the operator's manual for the engine.
2. NEVER Operate drill without correctly installing torque tube.
3. NEVER Remove auger from hole while auger is turning.
4. NEVER Operate auger at less than full throttle.
5. NEVER Operate drill with damaged auger or other damaged or missing parts.
6. KEEP Hands, Feet and Clothing away from moving parts while engine is running.
7. KEEP All safety shields and devices in place.
8. MAKE Certain everyone is clear before operating the machine.
9. KEEP leg pad against leg while drilling to maintain safe control.
10. WEAR SAFETY GLASSES.
11. KEEP Bystanders at least 10 feet away from work area.
12. 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 or condone use of replacement engines greater than eight (8) horsepower.

LITTLE BEAVER, INC. does not recommend or condone any unauthorized modifications to the earth drill, especially those which would eliminate or reduce the effectiveness of the torque tube.

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.

MAINTENANCE AND LUBRICATION

Engines are shipped without oil or gasoline. Refer to MANUFACTURER'S INSTRUCTIONS for proper procedures and recommended fluids.

The TRANSMISSION and FLEXIBLE SHAFT are shipped fully oiled/greased and READY FOR USE. Refer below for proper maintenance and lubrication instructions. Refer to the associated repair parts section for proper disassembly and assembly instructions.



SHUT OFF ENGINE to adjust, service or clean the machine.

All nuts, fasteners and fittings must be kept properly torqued.

TRANSMISSION:

The transmission oil should be checked each day prior to operation, and during the day as conditions warrant.

RECOMMENDED OIL: Amalie Tri-Vis Plus Oil 80/85/140

Available in quart bottles, individually or in case of 12. ORDER PART #10280.

If this oil is not available, it is very important that you use a high quality gear oil.

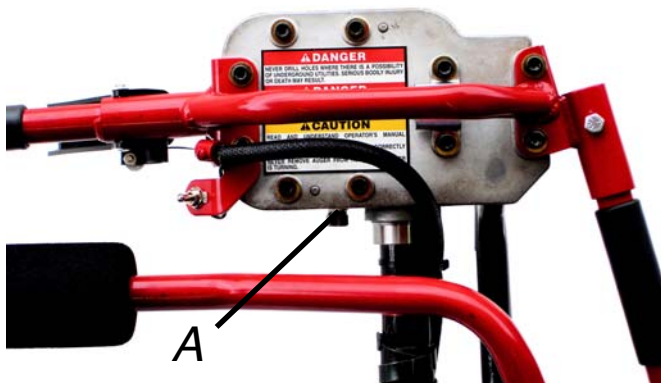


FIGURE 1

LUBRICATING INSTRUCTIONS:

When adding oil to the transmission, hold the transmission so that the top is level, then remove the pipe plug (Item A, see figure 1) and squeeze oil into transmission until oil just comes out of the hole. Replace pipe plug and tighten to 10 ft lbs.

WARNING: Failure to securely replace pipe plug (A) may allow it to back out of the hole during operation. This could result in serious bodily injury to the operator or bystanders.

Maintenance and lubrication...(cont.)

FLEXIBLE SHAFT:

The flexible shaft should be examined every 50 hours of operation and greased if necessary, using the recommended grease.

RECOMMENDED GREASE: Lubriplate Portable Tool Grease - GR-132
Available in 10 ounce Tubes, individually or in case of 12.

ORDER PART # 9070-L.

CLEANING AND GREASING INSTRUCTIONS: Follow the instructions provided for proper flexible shaft dis-assembly (See page P-9 of Parts Manual and follow steps 1, 2, 4 & 5). After the flexible shaft core has been removed, wipe off the old grease with a cloth. Clean the inside of the flexible shaft housing by pulling a clean rag through with a long piece of wire. It may be necessary to make several passes before all grease is removed. Then apply a light coat of recommended grease to the core and re-assemble. **DO NOT** over-lubricate, as this will cause excessive heat to build up in the shaft.

INSPECTION: HOUSING - Check for tears or breaks in the rubber casing. Small tears may be repaired by covering with duct tape or shrink tubing. If deep cuts are found and the wire braid is torn, the housing should be replaced.

CORE - Check for broken wires and kinks. The core should be replaced if a broken wire is found. Small kinks or twists are OK but if a sharp kink is found, the core should be replaced.

IMPORTANT: Excessive amounts of grease inside the flexible shaft assembly will cause the shaft to produce excessive heat and reduce the shaft's life. If the shaft becomes over-heated (too hot to touch), it must be cleaned, inspected (see above) and re-greased. It is also important to follow the proper procedure when greasing the transmission so that excess grease is not forced into the flexible shaft assembly.

DECAL LOCATION:

The decals which are provided with your machine are shown at the rear of this manual. The decals are important and should be maintained in good condition in the locations as described. If any of the decals are missing or illegible, order replacement kit #9020-O and install before operating the machine.

Maintenance and lubrication...(cont.)

CLUTCH: (See pg. P-13)

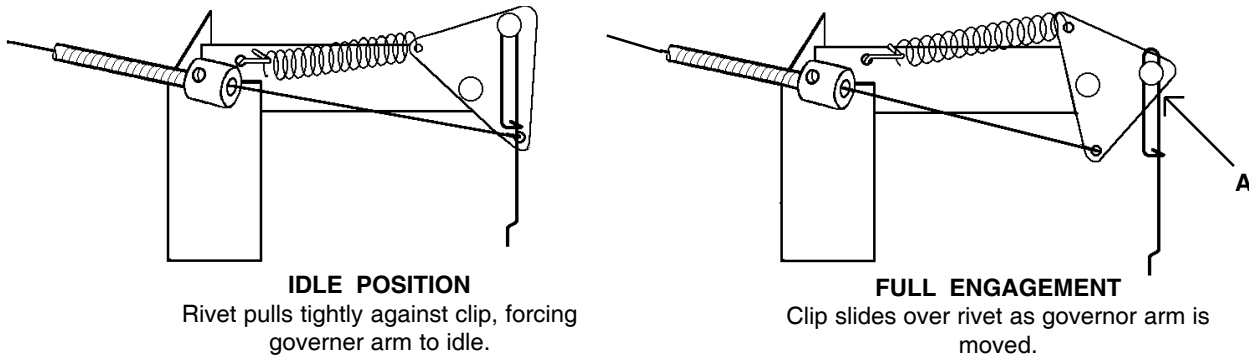
Your **LITTLE BEAVER** Earth Drill utilizes a centrifugal clutch to engage the auger as the engine is accelerated from idle to full speed. The clutch begins to engage at about 2100 to 2200 rpm, so engine idle should be kept below 1900 rpm.

The clutch requires no routine maintenance, but should be inspected when the flexible shaft is lubricated (see above). If excessive slippage occurs, check the shoes and drum and clean or replace if necessary.

If the auger turns when the engine is at idle, first check the engine for proper idle speed (1900 rpm). Also check the throttle linkage as indicated below. If the problem persists, check for stretched, discolored or broken clutch springs and/or broken clutch shoes and replace if necessary.

THROTTLE CABLE AND THROTTLE BRACKET ASSEMBLY: (See pg. P-2/3 OR P-4/5)

ADJUST WITH ENGINE OFF. Inspect the throttle cable and throttle bracket assembly before each use or if abnormal operation is noticed while operating the earth drill. The throttle lever should pull smoothly and freely with no binding. The throttle wire should be adjusted so that there is minimal slack at the idle position (no more than 1" movement at the end of the lever). Then check that the throttle bracket is fully engaged before the lever "bottoms out" against the handle bar. Also check that the clip moves smoothly over the rivet head (see "A") when the throttle is fully engaged. If binding does occur, remove the clip and twist it slightly, then re-install and re-check.



Note: The 5HP Briggs & Stratton models (standard black engine or Industrial/Commercial only) do not use the sliding clip. With these models, check that the moving arm on the bracket pulls away from the governor arm in the full throttle position. In the idle position it should push against the governor arm.

TROUBLESHOOTING

TROUBLE

CAUSE

Engine will not start.

- 1.) Toggle Kill Switch on handle is off.
- 2.) Torque tube is not connected at engine end.
- 3.) "Oil Guard" protected engines must be filled with oil to full mark on dipstick or to point of overflowing.
- 4.) If the light inside the engine on/off switch flashes (Briggs & Stratton only), this is an indication that the oil level is low.
- 5.) Fuel level is too low in gas tank.
- 6.) Spark Plug is fouled.

Cannot Connect or Disconnect Auger.

- 1.) Foreign Matter clogging adaptor.
- 2.) Spring and button in top of auger is bent or broken.
- 3.) Adaptor is bent.

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.

Auger turns but will not dig.

- 1.) Foreign matter collected around point.
- 2.) Point or blade is dull.
- 3.) Use carbide blade for hard pan soil.

Auger with extension will not dig.

- 1.) Auger or extensions bent or running out of line.

Transmission over-heats.

- 1.) It is normal for the transmission to run hot to the touch. If it is very hot, check for proper oil and free turning.

Auger turns when engine idles.

- 1.) Engine idle is set too high.
- 2.) Sliding wire clip on throttle bracket stuck. (should move freely when throttle lever is closed.)
- 3.) Clutch Spring broken.

OPERATING INSTRUCTIONS

CONNECT TORQUE TUBE

The torque tube consists of a steel tube approx. 66" long with a 1-1/2" square fitting on one end. Part #2 is 29" long with a pivot hole on one end. To assemble, slide the other end of the tube onto the torque arm rod extending from the transmission as shown in figure 2. Attach the square end of the torque tube to the engine bracket as shown in figure 3. Make sure that the safety kill switch is pushed in and that the snap button is aligned with the mating hole provided so that the snap button securely snaps into place.. Attach the other end to the handle using the nylon bushings, shoulder bolt and lock washer, (included).



FIGURE 2



FIGURE 3



WARNING: NEVER use the Earth Drill unless the torque tube is properly connected.

BEFORE STARTING THE ENGINE, Be sure that:

- 1.) Engine is properly prepared to Manufacturer's specifications. Note: Engines with "Oil Guard" protection must be filled with oil to the **full mark on dipstick** or to point of overflowing to allow the engine to start. If the light inside the engine on/off switch flashes (Briggs & Stratton only), this is an indication that the oil level is low.
- 2.) The torque tube is properly attached.
- 3.) There is no auger connected to the handle.
- 4.) The safety kill switch is in "ON" position on the handle and the Torque Tube has engaged the safety kill switch at the engine bracket.

TO START THE ENGINE: Set the choke lever to the "ON" position and pull the starter rope. The engine should start after 2 or 3 pulls. Set the choke lever to the "OFF" position and allow the engine to warm-up for 2 or 3 minutes. If the engine does not start, re-check all safety kill switches, then refer to the engine manufacturers operator manual.




NOTE: If it is necessary to 'gas' or 'rev up' the engine while starting, push slightly with your thumb against the bell crank on the throttle bracket. (The bell crank is the pivoting triangular plate to which the throttle wire, spring and clip are attached.) This will release spring tension against the governor and allow the carburetor to open slightly.

DO NOT push directly against or try to move the carburetor butterfly or idle screw. Doing so will bend the governor linkage rod.

AFTER THE ENGINE HAS WARMED UP, Insert the auger into the drive adaptor on the bottom of the handle. Make sure the snap button and hole provided in the adaptor are aligned and the button snaps securely into place. Hold the handle so your left index finger can operate the throttle. Grasp the right handle bar with your right hand. Stand so the auger is straight up-and-down and is properly positioned to dig your hole (see figure 4). Note the safety instructions in this manual and on the machine's decals.




FIGURE 4

-  **NEVER** Drill holes where there is a possibility of underground power cables or other hazards.
-  **MAKE** certain everyone is clear before operating the machine.
-  **KEEP** hands, feet and clothing away from moving parts while engine is running.

START THE AUGER TURNING By pulling the throttle 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.

IF THE AUGER STALLS repeatedly or slows down significantly; stop the auger by releasing throttle lever, slightly lift up on auger, start auger by pulling throttle lever, and allow the auger to turn at full speed while slowly lowering it to bottom of hole. When the desired depth is reached, stop the auger by releasing the throttle lever. Then pull the auger completely out of the hole.

-  **NEVER** Remove auger from hole while auger is turning.

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

AUGER EXTENSIONS

If greater hole depths are required, extensions may be used with the auger. After the auger has reached its maximum depth, stop the auger and disconnect the drive adaptor from the auger which remains in the hole. Connect the extension to the auger as shown in figure 5. Connect the drive adaptor to the extension and continue to dig the hole.

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



FIGURE 5

NOTE: If the auger becomes lodged in roots, rocks, or other underground obstructions, and cannot be pulled free; disconnect the handle from the auger and turn the auger counter-clockwise. It may be necessary to use a pipe wrench to turn the auger. If the auger cannot be dislodged by turning counter-clockwise, it may be necessary to manually dig the auger free.



WHEN WORKING WITH CUTTING BLADE, Point and Auger Flighting, be careful not to be cut by sharp edges.

STANDARD CUTTING BLADE & POINT

Check the cutting blade (item A, Figure 6) 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 hardsurfacing rod. This is very important to reduce auger flighting wear and damage. The point (Item B, Figure 6) should be replaced when it loses its cutting shape.

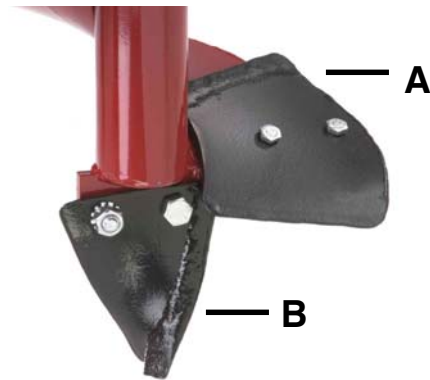


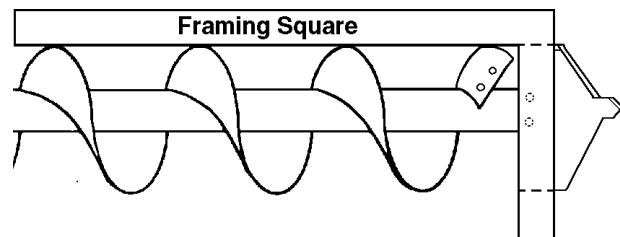
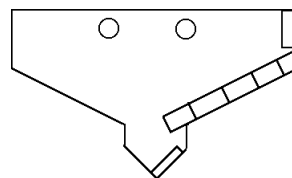
FIGURE 6

OPTIONAL CARBIDE BLADE:

An optional carbide blade is available for auger sizes 1-1/2" thru 12". It is designed for use in smooth hard-pan soils, asphalt or frost. It is not recommended for use in rocky soils. The 4" thru 12" carbide blade bolts on to the auger in place of the standard point. The standard blade is not used.

(4-12")

Mount the blade to the auger using the included 3/8" x 1-1/4" bolts and nylon lock-nuts. Use a framing square to carefully align the blade at 90 degrees to the auger. Tighten the nuts slowly until snug, then re-check alignment and adjust if necessary. Torque the bolts to 45 ft. lbs.



CAUTION: If the blade is not installed properly, mis-alignmant may cause the auger to vibrate and "walk" in use.

ATTACHMENTS:

Several attachments are available for your LITTLE BEAVER Earth Drill; including both wet and dry type horizontal boring kits and a drill chuck adaptor which allows you to use a wood bit. Refer to the specific operating instructions supplied with the attachment. If these become lost or misplaced, replacements may be obtained from the factory.

DECAL LOCATION

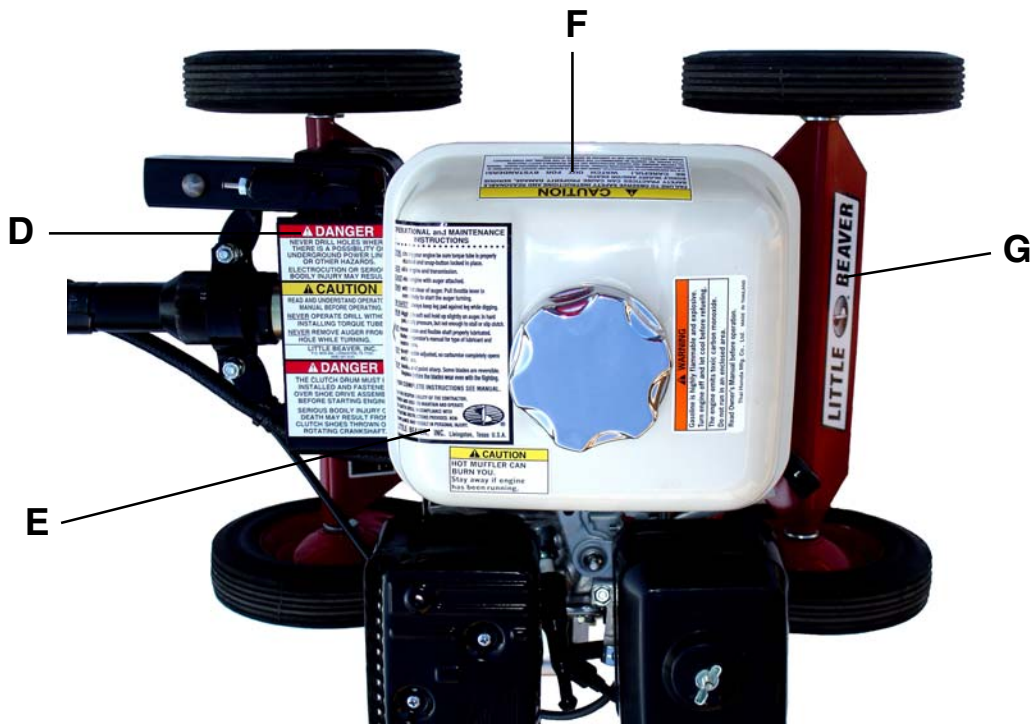
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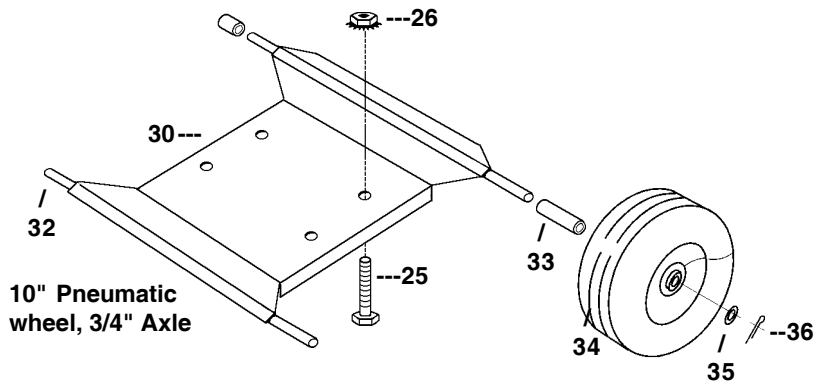
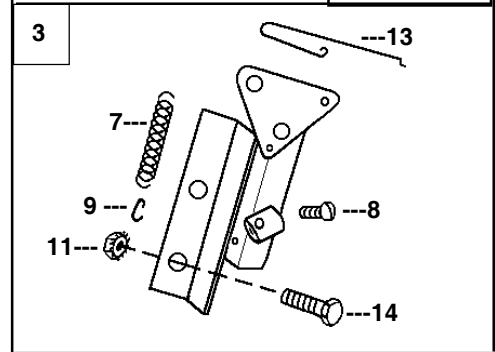
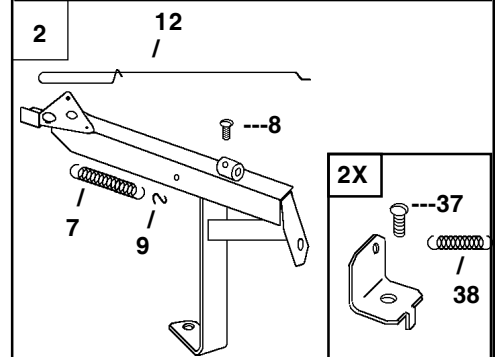
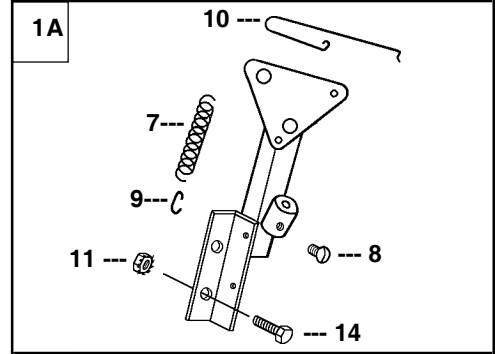
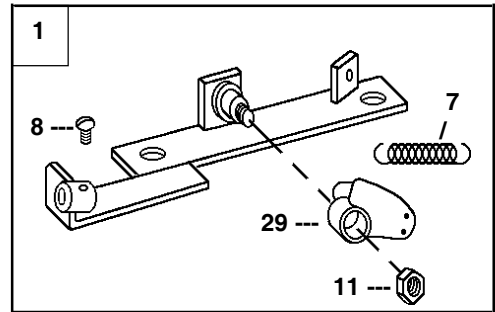
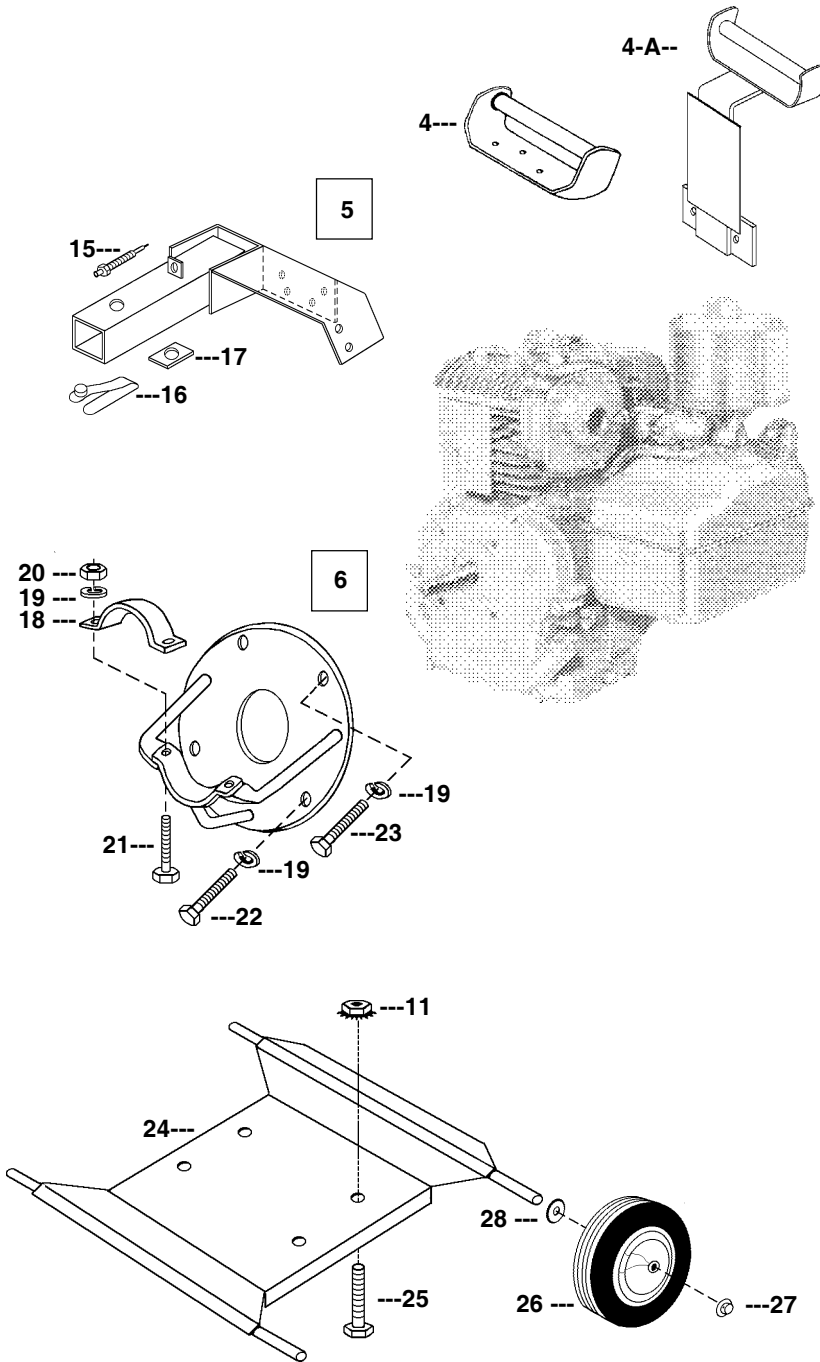
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FOR DECAL SET,

ORDER KIT #9020-O for machines with **Oil Bath** Transmission
 ORDER KIT #9020-D for machines with **Grease** lubricated Transmission
 which also includes the Decals for the Handle.

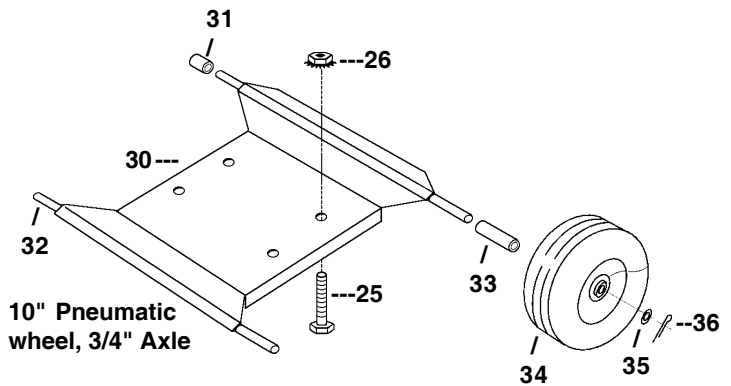
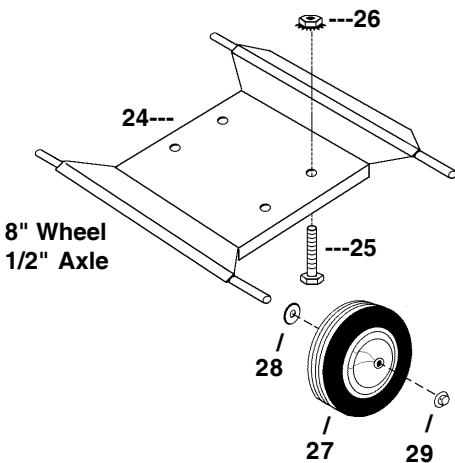
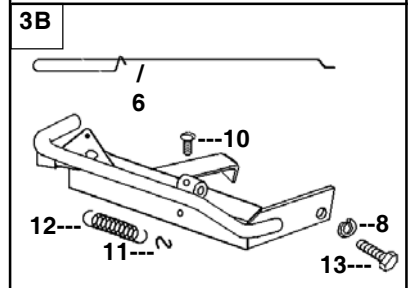
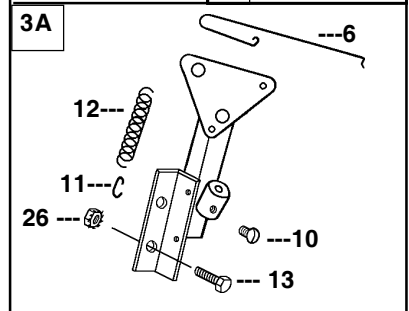
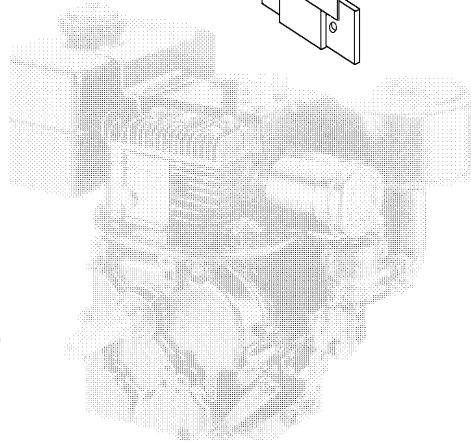
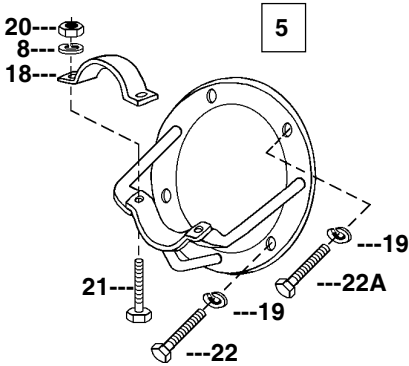
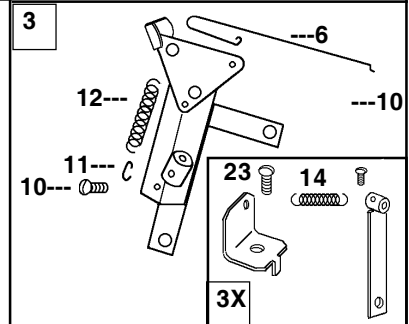
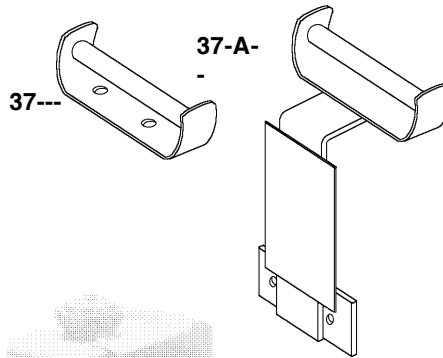
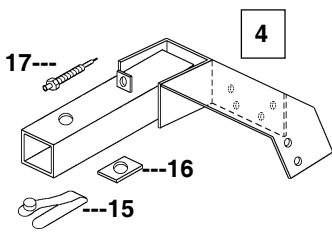
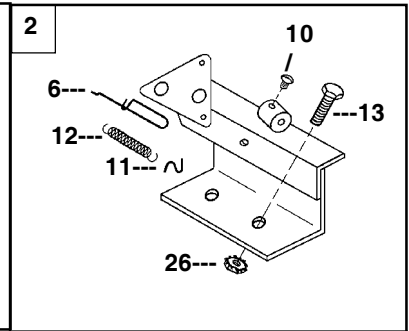
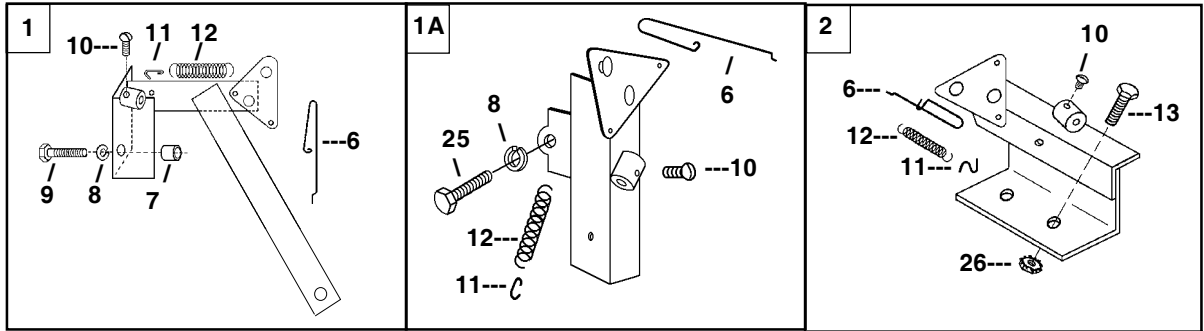
5 HP ENGINE ASSEMBLY



5 HP ENGINE ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	3085-A	Throttle Bracket Assy. 5HP B&S & B&S I/C (Industrial/Commercial)	1
1A	3082-A	Throttle Bracket Assy. 5 HP B&S Industrial Plus	1
	3082-V	Throttle Bracket Assy. 5.5 HP B&S Vanguard Engine	1
	3084-A	Throttle Bracket Assy. 5.5 HP B&S INTEK Pro Engine	1
2	-----	Obsolete, order #TCO-5H Throttle Bracket Change-over Kit	
		Includes Spring Anchor Assy.(2X), Throttle Wire, Housing, and Loom	1
2X	3092-A	Spring Anchor Assy. 5HP Honda Direct Throttle Hook-up	1
3	3050-A	Throttle Bracket Assy. 5 HP Wisconsin W1-185	1
4	3000-C	Handle - Motor Carrier, 5HP B&S & B&S I/C ONLY	1
4A	3000-CD	Handle - Motor Carrier, 5 & 8HP B&S Intek Pro ONLY	1
	3000-CDH	Handle - Motor Carrier, 5 & 8HP Honda ONLY	1
5	9084-G	Torque Tube Bracket Assy. - Engine End	1
6	3011-MA	Clutch Bracket Assy. Model 5	1
7	4041-2H	Spring	1
8	3010-8	Screw, 10-32 x 1/4"	1
9	3010-7	S-Hook	1
10	3010-5B	Clip, 5HP B&S Industrial Plus Engine	1
	3010-2	Clip, 5.5HP Vanguard	1
	3010-5I	Clip, 5HP B&S Intek Pro Engine	1
11	3002-KEP	Nut 5/16-18 (Nut w/Lockwasher)	4
12	3010-H	Clip, 5HP Honda GX140/GX160	1
13	3010-4	Clip, 5HP Wisc. W1-185	1
14	3012-1T	Screw 5/16" x 3/4" G5, Hex NC	2
15	3007-9	Kill Switch, Torque Tube	1
16	9058	Spring & Button	1
17	9084-1	Spacer	1
18	4018-2H	Clamp (incl. 2 ea #9027-10, 3002-C & #30318)	1
19	3002-C	Lock Washer, 5/16"	6
20	30318	Nut, 5/16"-18, w/Nylon Insert Lock	2
21	9027-10	Screw 5/16" -18 x 1-1/4"	2
22	3012-1	Screw 5/16" x 7/8", Hex SAE	2
23	9084-2	Screw 5/16" x 1 1/4" GR5, Hex SAE	2
24	3000-B	Motor Carrier	1
25	3002	Screw 5/16" x 1-1/2" NC	4
26	3004	Wheel, 8" (incl. #3006-1)	4
27	3006-1	Cap-Axle Snap (incl. w/#3004)	4
28	3004-A	Flat Washer	4
29	3087	Governer Control, 5HP B&S	1
30	3000-EV	Carrier ONLY, Medium Clearance for 5.5HP Vanguard Engine	1
31	3031-A	Spacer, 1-5/8"	2
32	3030	Axle	2
33	3031-B	Spacer, 3-1/8"	2
34	30258	Wheel, 10" Pneumatic	4
35	30164	Flat Washer 3/4"	4
36	30163	Cotter Key, Wheel, 1/8" x 1"	4
37	5079	Screw, 10-32 x 3/8 Machine	1
38	4041-2	Spring, Throttle 5Honda Direct Hook-Up and Throttle Lever	1

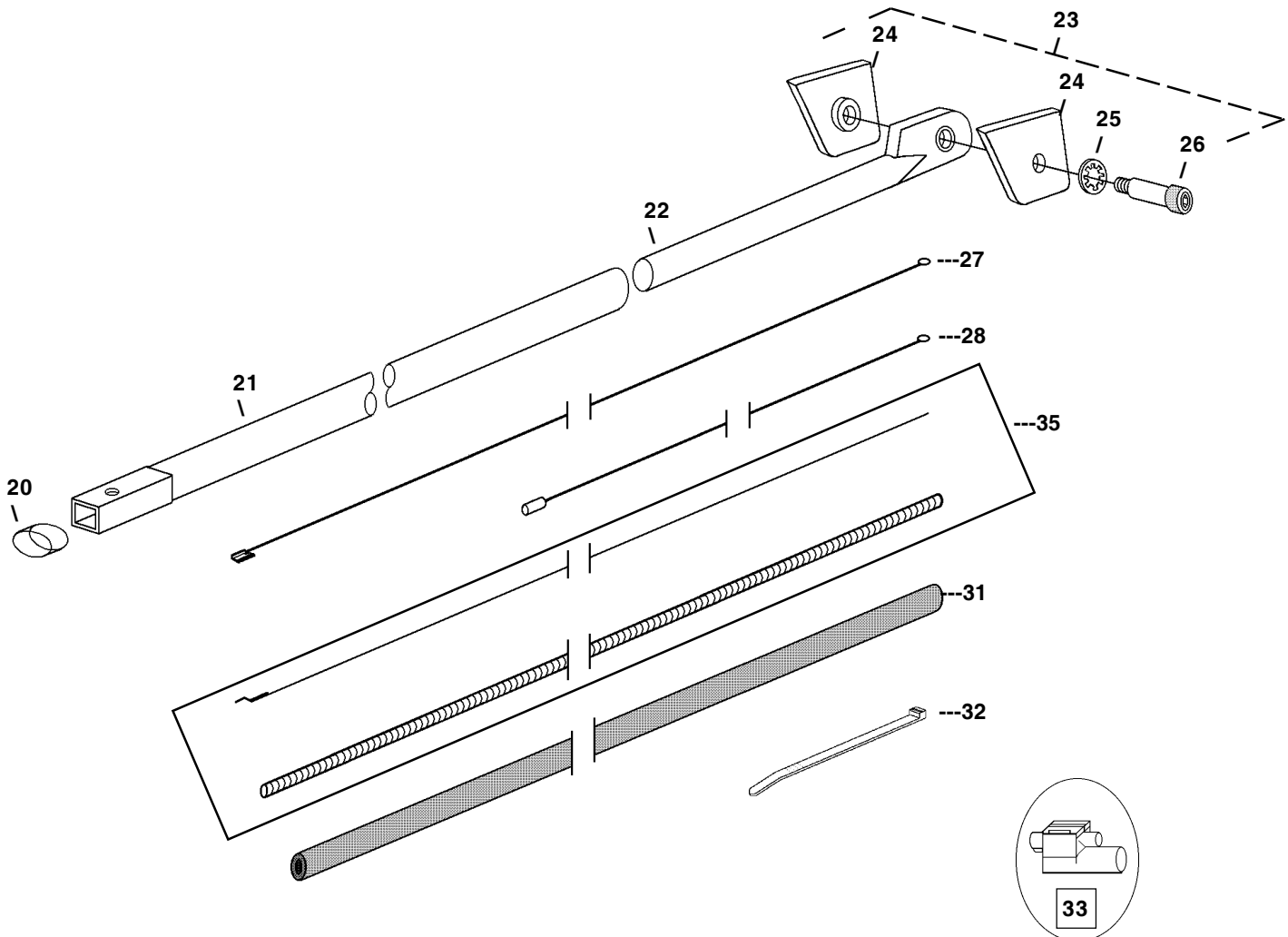
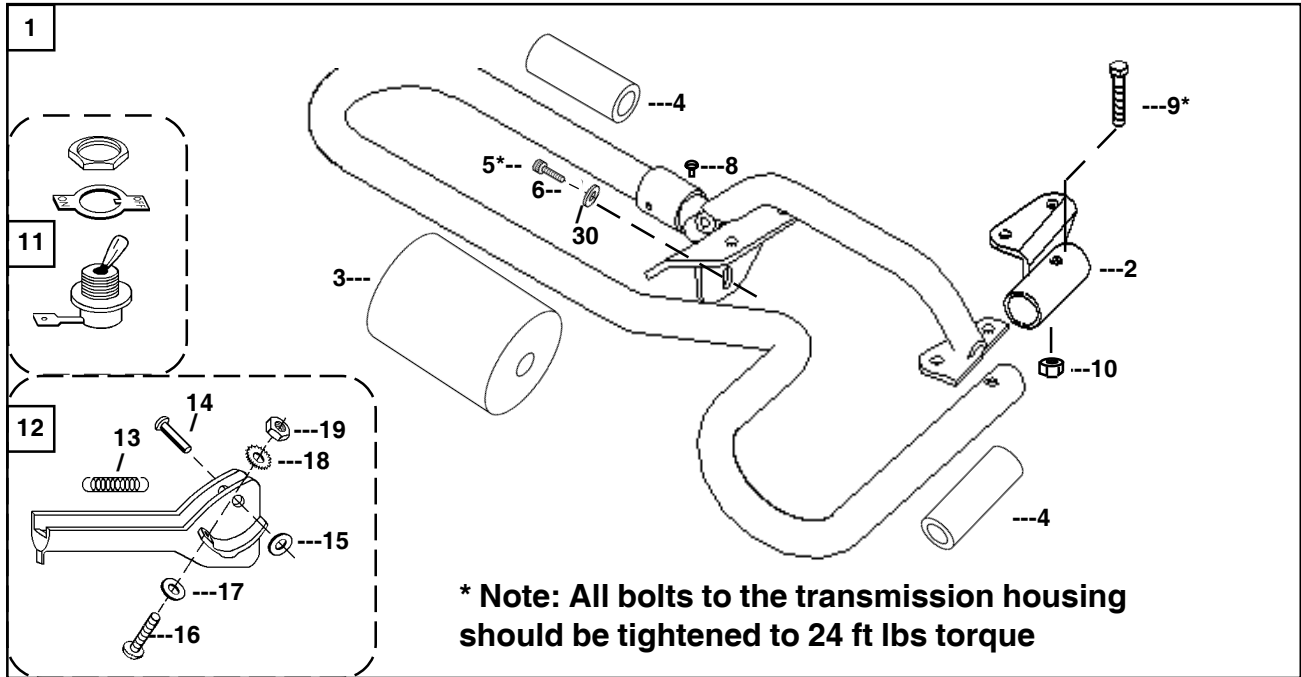
7 & 8 HP ENGINE ASSEMBLY



7 & 8 HP ENGINE ASSEMBLY

ITEM	PART #	DESCRIPTION	QTY
1	3010-D	Throttle Bracket Assy. 7 HP B&S Engine	1
1A	3065-A	Throttle Bracket Assy. 8 HP B&S Industrial Plus Engine	1
2	3095-A	Throttle Bracket Assy. 7 HP Wisconsin Engine	1
3	-----	Obsolete, order #TCO-8H Throttle Bracket Change-over Kit includes New Guide (3X), Throttle Wire, Housing, Loom and spring	1
3A	3088-A	Throttle Bracket Assy. 7.5 HP B&S Vanguard Engine	1
3B	3055-A	Throttle Bracket Assy. 8 HP B&S INTEK Pro Engine	1
3X	3063-A	Cable Guide Assy. 8HP Honda Direct Throttle Hook-up	1
4	9084-G	Torque Tube Bracket Assy. - Engine End	1
5	3011-HMA	Clutch Bracket Assy. Model 7	1
6	3010-4	Clip	1
	3010-H	Clip, 8 HP Intek (and 5HP Honda)	1
	3010-4H	Clip, 8HP Honda	1
	3010-5B	Clip, 8HP B&S Industrial Plus Engine	1
	3010-2	Clip, 7.5 HP B&S Vanguard Engine	1
7	3010-10	Spacer	1
8	3002-C	Lock Washer 5/16"	4
9	3010-9	Screw 5/16" x 2" NC Grade 2	1
10	3010-8	Screw, 10-32 x 1/4"	1
11	3010-7	S-Hook	1
12	4041-2H	Spring	1
	3096	Spring, 7.5 Vanguard	1
13	3012-1T	Screw 5/16" x 3/4" Grade 2	2
14	4041-2	Spring, Throttle 8 HP Honda Direct Hook-Up and Throttle Lever	1
15	9058	Spring & Button	1
16	9084-1	Spacer	1
17	3007-9	Kill Switch, Torque Tube	1
18	4018-2H	Clamp (incl. 2 ea #9027-10, 3002-C & #30318)	1
19	3012-3	Lock Washer, 3/8"	4
20	30318	Nut 5/16"-18 Nylon Insert Lock	2
21	9027-10	Screw 5/16"-18 x 1-1/4"	2
22	3012-2	Screw 3/8" x 1" NC (Bottom)	2
22A	9027-8	Screw 3/8" x 1 1/4" Hex NC GR5 (Top)	2
23	5079	Screw, 10-32 x 3/8 Machine	1
24	3000-B	Carrier (incl. 4 #3004-A)	1
25	3002-A	Cap Screw 5/16" x 1-3/4" NC	4
26	3002-KEP	Nut 5/16-18 (Nut w/Lockwasher)	6
27	3004	Wheel, 8" (incl. 3006-1)	4
28	3004-A	Flat Washer	4
29	3006-1	Cap-Axle Snap (incl. w/#3004)	4
30	3000-E	Carrier ONLY, Medium Clearance	1
	3000-G	Carrier ONLY, 8 HP B&S INTEK	1
31	3031-A	Spacer, 1-5/8"	2
32	3030	Axle	2
33	3031-B	Spacer, 3-1/8"	2
34	30258	Wheel, 10" Pneumatic	4
35	30164	Flat Washer 3/4"	4
36	30163	Cotter Key, Wheel, 1/8" x 1"	4
37	3000-C7	Handle, Motor Carrier, 7HP B&S Engine ONLY	1
37A	3000-CD	Handle, Motor Carrier, with Decal, 5 & 8 HP B&S Intek Pro ONLY	1
	3000-CDH	Handle, Motor Carrier, with Decal, 5 & 8 HP Honda ONLY	1

HANDLE, TORQUE TUBE AND WIRES

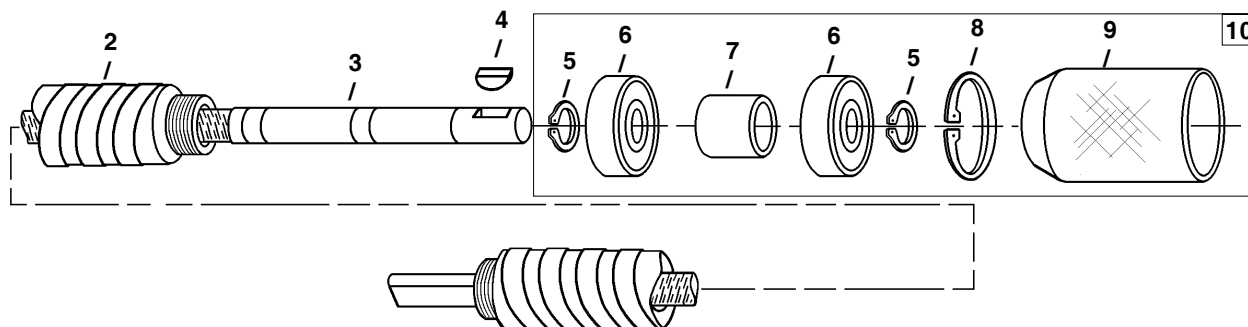


HANDLE, TORQUE TUBE AND WIRES

ITEM	PART #	DESCRIPTION	QTY
1	10428-A	Handle, Loop includes Switch and Throttle Lever	1
If your machine is not equipped with this handle, but is the Oil Bath Transmission, you can upgrade by ordering part # HCO-M# which would include the handle assembly and the new transmission lid.			
2	10429	Clamp, Bushing, Right	1
3	10460	Leg Pad	1
4	10440	Handle Grip, Left & Right	2
5	10306	Socket Head Cap Screw, 5/16 -18 x 3/4	1
6	3002-C	Washer, 5/16 Split Lock, Heavy Plated	4
7	10305	Washer, 5/16 Flat	4
8	3010-8	Screw, 10-32 x 1/4"	1
9	3002-A	Screw, 5/16 x 1-3/4 Hex Head Cap Screw	1
10	30318	Nut, Nylon Lock, 5/16"	1
11	10470	Kill Switch Assembly	1
12	4031-1	Throttle Lever Assembly	1
13	4041-2	Spring, Return, Throttle Lever	1
14	4033	Rivet	1
15	4033-1	Flat Washer, #10	1
16	4034-A	Screw, 10-32 X 5/8"	1
17	4034-1	Flat Washer, 3/16", 1/4" Standard	11
18	4034-2	Lock Washer, #10, External	1
19	4034-3	Nut, 10-32 Hex	1
20	9058-1	Button Shield	1
21	10340	Torque Tube, Female, 69" long	1
22	10350	Torque Arm, Male end	1
23	10360-R	Bushing Repair Kit (incl. 2 Bushings, Washer & Shoulder Bolt)	1
24	10360	Bushing, Torque Arm	2
25	10380	Internal Star Washer, 5/8"	1
26	10370	Shoulder Bolt, 5/8" x 1 3/4"	1
27	3007-6	Kill Switch Wire-Long	1
	3007-6B	Kill Switch Wire-Long-5HP B&S ONLY	1
	3007-6H*	Kill Switch Wire-Long 5 & 8HP Honda Direct Throttle	1
	3007-8W	Kill Switch Wire-Long 5,7&8HP Wisc./Honda/B&S Ind Plus, 8HP Intek & 5.5 Vang.	1
28	3007-8	Kill Switch Wire-Short	1
30	10520	Washer, Belleville	1
31	3007-6P	Wire Loom, Briggs & Stratton	1
	3007-H*	Wire Loom, Honda and 7.5 Vanguard	1
32	3007-5	Plastic Tie	5
33	9090-W	Wire Splicer, Wisc., Honda & B&S Industrial Plus Only	1
34	10302	Screw, 5/16 x 1-1/4 Socket Head	4
35	3089	Throttle Control Assembly (inc. 3008 & 3009) 109" OAL	1
	3089-5H	Throttle Control Assembly 115" OAL 5HP Honda Direct Throttle	1
	3089-8H*	Throttle Control Assembly 119" OAL 8HP Honda Direct Throttle	1

* For 7.5 HP Vanugard Engine (138432-0035-A1)

FLEXIBLE SHAFT



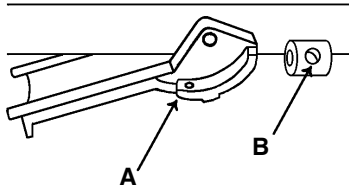
ITEM	PART #	DESCRIPTION	QTY
	3224	Flexible Drive Shaft Assembly, Complete	1
2	3124-1	Housing, Flexible Drive Shaft	1
3	3224-2	Core, Flexible Drive Shaft (inc. #4019, #3024-16 & #3124-19)	1
	3224-2EA	Core with End Assembly	
4	4019	Key (inc. w/#3124-2)	1
5	3024-16	Lock Ring-Inner, End Assembly (inc. w/#3124-2)	2
6	3024-13	Bearing	2
7	3124-19	Spacer (inc. w/#3124-2)	2
8	3024-15	Lock Ring-Outer, End Assembly	2
9	3024-17	Knurled Housing, End Assembly	1
10	3124-4	End Assembly Kit	1

RECOMMENDED GREASE: Lubriplate Portable Tool Grease (GR-132)
 Available in 10 oz. tube form, also in case of 12.
ORDER PART #9070-L

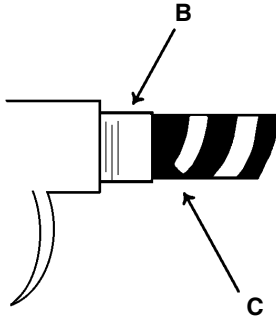
IMPORTANT: Shafts should be examined every 50 to 100 hours of use and greased if necessary, using recommended grease.

GREASING INSTRUCTIONS: Follow steps 1, 2, 4 & 5 of the Flexible Drive Shaft Dis-Assembly instructions on the following page.

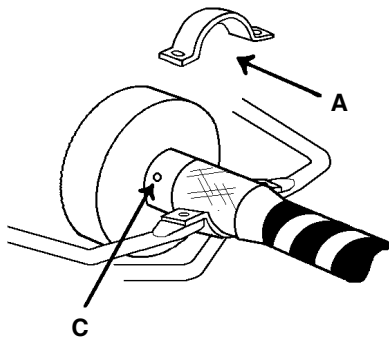
FLEXIBLE SHAFT DIS-ASSEMBLY



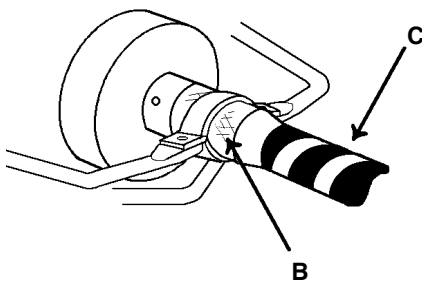
1. **REMOVE KILL SWITCH WIRE & THROTTLE WIRE**
 - A. Disconnect at throttle lever.
 - B. Loosen anchor bolt on handle.
 - C. Pull kill switch wire from kill switch.
 - D. Un-wrap wires from flexible shaft and lay aside.



2. **DETACH SHAFT FROM TRANSMISSION**
 - A. Loosen two bolts on clamp #4018-2H (Item A in step 3) so that end assembly can turn.
 - B. Using a pipe wrench, hold #10150 (silver) retainer in place. NOTE: Do not unscrew the 10150 retainer from the transmission housing. If it does unscrew, use caution in re-inserting it. The aluminum threads are easily damaged or cross-threaded.
 - C. With a second pipe wrench, turn the (black) flexible shaft COUNTER-CLOCKWISE to loosen and remove.

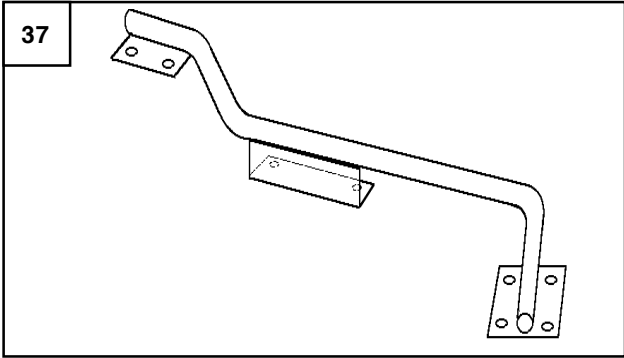


3. **TO DISCONNECT COMPLETE SHAFT ASSEMBLY**
 - A. Remove clamp #4018-2H from clutch bracket.
 - B. Pry clutch drum loose, freeing clutch drum and complete shaft assembly from power unit.
 - C. To detach clutch drum from shaft, loosen two allen screws on clutch drum and pry loose from shaft.

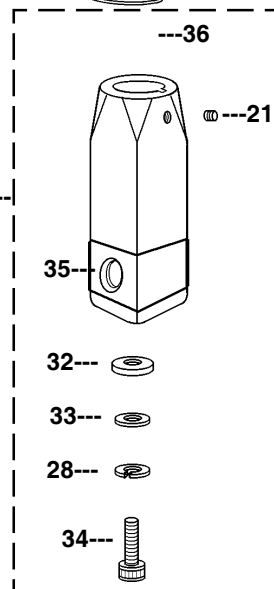
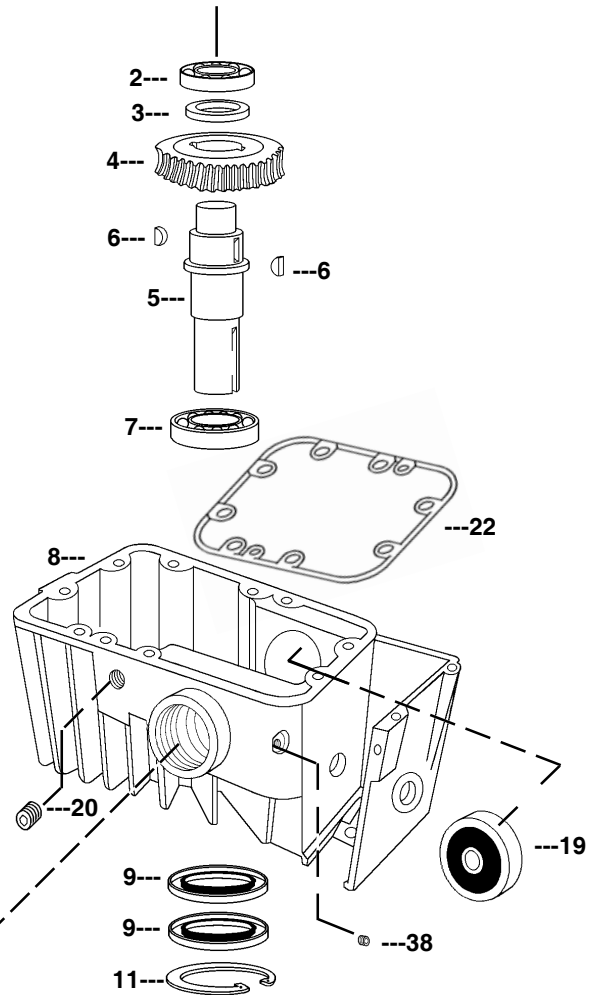
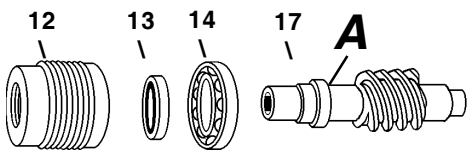
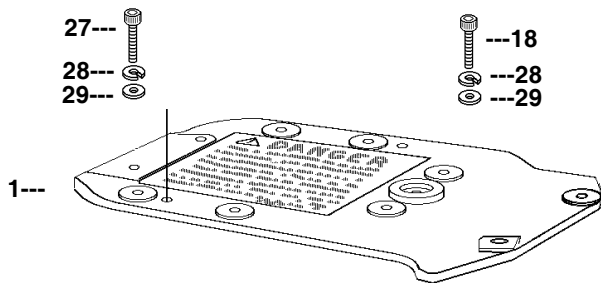
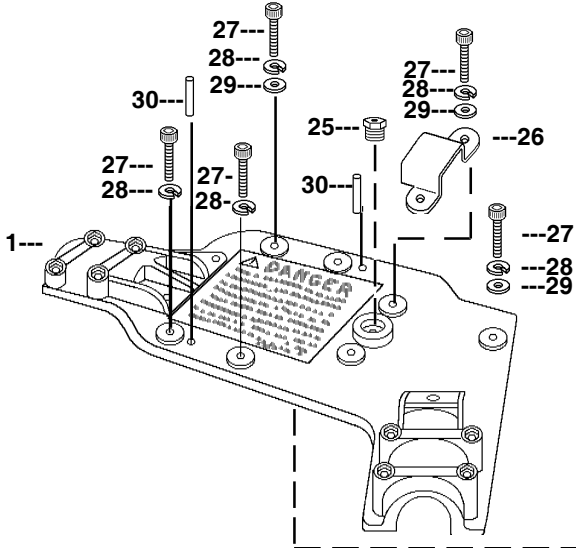


4. **TO REMOVE FLEXIBLE SHAFT CORE AND HOUSING ONLY**
 - A. Complete steps 1 and 2 above.
 - B. Hold flexible shaft end piece in place with pipe wrench.
 - C. Using a second pipe wrench, turn flexible shaft housing COUNTER-CLOCKWISE freeing it from the end assembly.
 - D. To remove core from end assembly, complete step 3. Remove key and outer snap ring, slide knurled housing down, remove outer bearing and spacer. Remove lock ring bearing and lock ring.

5. **RE-ASSEMBLY**
 - A. BEFORE re-assembling core and housing of flexible shaft, remove all old grease.
 - B. Re-grease by applying grease to core while inserting into flexible shaft housing. (Recommended grease-Lubriplate Portable Tool Grease - Order Part #9070-L)
 - C. After greasing, re-assemble by reversing dis-assembly procedures.



TRANSMISSION OIL BATH



TRANSMISSION, OIL BATH

ITEM	PART #	DESCRIPTION	QTY
	10010	Transmission Assy.10:1 w/Adaptor, less Handle and Torque Arm	1
	10020	Transmission Assy.20:1 w/Adaptor, less Handle and Torque Arm	1
	10030	Transmission Assy.13.33:1 w/Adaptor, less Handle and Torque Arm	1
	Transmissions for Loop handle following (see page P-6 of this manual for Loop Handle)		
	10010-L	Transmission Assy.10:1 w/Adaptor, less Loop Handle and Torque Arm	1
	10020-L	Transmission Assy.20:1 w/Adaptor, less Loop Handle and Torque Arm	1
	10030-L	Transmission Assy.13.33:1 w/Adaptor, less Loop Handle and Torque Arm	1
1	10040	Cover Plate	1
	10041	Cover Plate for Loop Handle	1
2	10050	Bearing, Upper Main Shaft, #6205	1
3	10060	Spacer, Main Shaft	1
4	10070	Bronze Gear, 10:1 Ratio, 1-1/4" Bore, Double Keyed	1
	10072	Bronze Gear, 20:1 Ratio, 1-1/4" Bore, Double Keyed	1
	10075	Bronze Gear, 13:1 Ratio, 1-1/4" Bore, Double Keyed	1
5	10080	Main Shaft, includes 2 #10115 Seals	1
6	10090	Key Main Shaft - #806 Woodruff	2
7	10100	Bearing, Lower Main Shaft #6206	1
8	10130	Body, Casting	1
9	10115	Seal, Main Shaft #471736 (for new style main shaft of 1/95).	2
11	10140	Snap Ring, 1-3/4" External Housing Ring	1
12	10150	Coupling, Pinion Shaft, includes 10170 seal	1
13	10170	Seal, Pinion Shaft inc. w/10150 coupling	1
14	10180	Bearing, Front Pinion Shaft, #6905	1
17	10191	Pinion Gear Shaft, 10:1	1
	10193	Pinion Gear Shaft, 20:1	1
	10196	Pinion Gear Shaft, 13.33:1	1
18	KT4-1040	Screw, Socket Hd. 5/16 x 1-1/2	2
19	10210	Bearing, Rear Pinion Shaft #6302-RSR	1
20	10260	Pipe Plug	1
21	9021	Allen Screw 1/4"-20 x 1/4"	1
22	10230	O-Ring, Cover Seal (All-In-One)	1
25	10310	Vent Plug, Oil	1
26	10320	Deflector, Vent Plug	1
27	10300	Screw, Socket Head, 5/16" x 1" (If for Loop Handle, 2 must be 1-1/4" Long, #10302 and 2 must be 1-1/2" long, #KT4-1040)	10
28	3002-C	Washer, 5/16" Split Lock	10
29	10305	Washer, 5/16" Flat SAE	7
30	10330	Dowel Pin, 1/4" x 1"	2
31	30272	Adaptor, Keyed Shaft to Auger, mounting hardware incl.	1
32	10520	Washer, Williams, 3/8"	1
33	10305	Washer, 5/16 Standard Flat	1
34	10490	Cap Screw, Socket Head, 5/16"-18 x 1" w/Locking Plug	1
35	9058-1	Button Shield, Only	1
36	4081	Key, Adaptor	1
37	10425	Handle Brace for 2 piece handle	1
38	30171	Set Screw, 5/16 x 5/16	1

WHEN ORDERING TRANSMISSION PARTS BE SURE TO INCLUDE SERIAL NUMBER OF TRANSMISSION, LOCATED ON BOTTOM OF HOUSING

IMPORTANT: LUBRICATING INSTRUCTIONS Can be found on page P-13

OIL BATH TRANSMISSION
INSTRUCTIONS FOR DIS-ASSEMBLING AND ASSEMBLING

(Refer to key #'s on Page P-6 & P-10)

TO DIS-ASSEMBLE:

1. Uncouple throttle wire and throttle wire housing. Remove kill switch wire.
2. Remove shoulder bolt #26, torque arm #22 and torque arm bushing #24 from transmission (see page 6).
Note: You may have to remove right handle clamp screw #5 before torque arm and bushings will come out.
3. Uncouple flexible drive shaft from retainer and coupling #12 by holding retainer with a pipe wrench and unscrewing drive shaft housing with a second pipe wrench. NOTE: the flexible drive shaft housing is black. The retainer is unpainted. Break loose where these items join. (right hand thread)
4. Remove pipe plug #20 and drain oil from transmission.
5. Remove 8 bolts #9 and nuts #10 from handle clamps and cover plate #1. Remove right and left handles.
6. Remove 10 screws #27, flat washers #29 and lock washers #28 from transmission. Note the location and orientation of the vent plug cover #26.
7. Tap the underside of the cover plate to remove it. Note the location of the O-rings for proper reassembly. There are 8 #24 O-rings, 2 #23 O-rings and 1 #22 O-ring. Do not lose the O-Rings.
8. Remove vent plug #25 from the cover plate if it needs to be replaced.
9. Remove set screw #21, holding retainer #12. Unscrew retainer using a pipe wrench. (right hand thread)
10. Remove seal #13 from retainer #12 by pressing out from threaded end.
11. Loosen set screw #36 and remove screw #35, flat washer #33 and lock washer #34 from the adaptor #31. Using a ball joint wrench, remove the adaptor from the main shaft #5 by tapping the wrench between the housing and the adaptor. Try not to burr the housing if possible. Note screw #35 has a nylon insert, replace it with the same type.
12. Using a small punch, tap on pinion gear/shaft #15 at shoulder A to remove it from the housing. Press bearing #14 off of shaft.
13. Remove spacer #3 from main shaft.
14. Turn housing upside down and tap main shaft #5 out of housing.
15. Remove bearing #7 from housing by tapping or pressing out of housing.
16. Remove seal retainer ring #11 from housing, using snap-ring pliers.
17. Turn housing over and tap seals #9 out of housing.
18. Tap bronze gear #4 off of main shaft. Keys #6 will be free.
19. Using pilot bearing puller, remove bearing #19 if it needs to be replaced.

TO ASSEMBLE:

1. Press 2 seals #9 into transmission housing #8 (old style main shaft uses seal #472475 and #471733, new style main shaft effective 1/95 uses 2 #471736 seals). Install seal retainer ring #11 into housing.
2. Press bearing #7 into housing.
3. Turn housing on the side and press bearing #19 into housing. Note: Be sure that Bearing #19 goes in straight, since the housing is cast at an angle.
4. Screw pipe plug #20 into housing.

Transmission Assembly Continued...

5. Press bearing #2 into cover plate #1.
6. Screw vent plug #25 into cover plate. Use teflon thread sealant tape on vent plug.
7. Tap keys #6 into main shaft #5, then press bronze gear #4 on main shaft.
8. Push main shaft, with gear, through bearing #7 and the seals.
9. Place spacer #3 on the main shaft, resting on the top of the bronze gear.
10. Press seal #13 onto coupling #12.
11. Hold housing secure and push pinion gear/shaft into the housing.
12. Place loctite on the threads of the housing and screw retainer #12 into housing and tighten with a pipe wrench. **This retainer is easy to crossthread, so line the threads up carefully.** Replace and tighten set screw #21 to secure retainer
13. Holding housing level, place 2 O-rings #23 over dowel pin holes and 8 O-rings #24 over bolt holes and 1 O-ring #22 in groove around top of housing.
14. Holding housing level, pour recommended oil (see page O-6) in housing. Oil level should come up to the top of spacer #3.
15. Place cover plate #1 on the top of the housing. Tap lightly so bearing will go on main shaft. Be sure that all O-rings stay in their proper places and do not fall into bottom of housing. Be sure they are fitting in their groove.
16. Align dowel pin holes and push dowel pins #30 all the way into the housing.
17. Place vent plug cover #26 over vent plug and screw 2 screws #27 with lock washers #28 and flat washers #29 on top of vent cover. Tighten to 24 ft. lbs.
18. Screw 8 screws #27 with lockwashers #28 and flat washers #29 into remaining holes. Tighten to 24 ft. lbs.
19. Tap key #37 onto main shaft. Then tap adaptor #31 on the main shaft. Insert Screw #35 with nylon insert, lock washer #34 and flat washer #33 through adaptor into bottom of main shaft and tighten to 10 ft. lbs. Tighten set screw #36 to secure key and adaptor.
20. Install torque arm #22 with 2 bushings #24 on both sides of torque arm into housing. Insert shoulder bolt #26 with star washer #25 into housing and through holes in bushings and torque arm. Tighten to 100 ft. lbs.
21. Place left and right handles on cover plate. Using bolts #9 and nylon stop nuts #10 secure clamps and handles to cover plate. Tighten to 10 ft. lbs.
22. Add recommended oil every day or as needed. Check oil level each day before use..

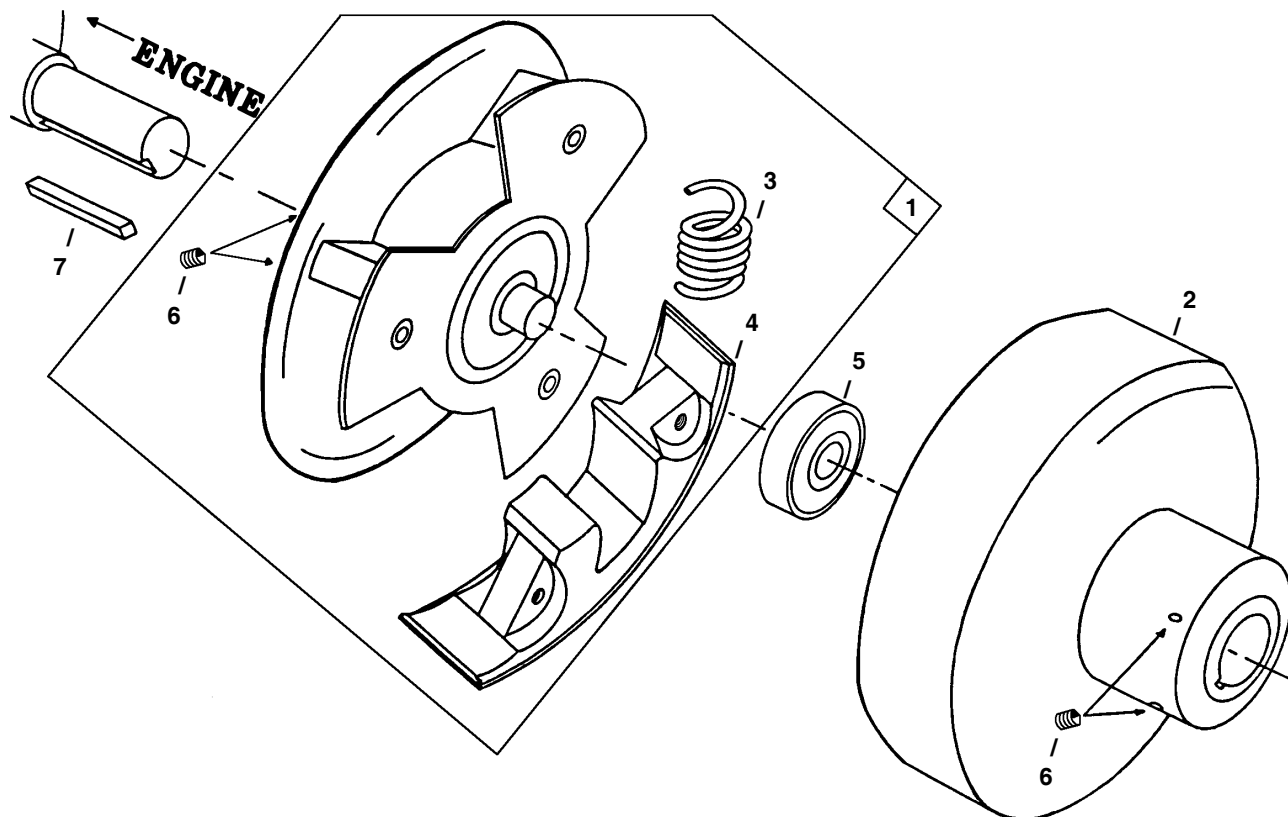
LUBRICATING INSTRUCTIONS: When adding oil to transmission, hold the transmission so that the top is level, then remove the pipe plug (item #20) and squeeze oil into the transmission until oil just comes out of the hole. Replace the pipe plug and tighten to 10ft.lbs. **The transmission oil should be checked each day prior to operation, and during the day as conditions warrant. The oil should be changed after the initial 25 hours of use and every 100 hours thereafter. *OIL CAPACITY: 1 US PINT***

RECOMMENDED OIL Amalie Tri-Vis Plus+ SAE 80W-85W-140 or Penzoil Multi Purpose Gear Oil or equivalent. Available in quart size, also in case of 12.

ORDER PART #10280 OR #10280-A for Case

***NOTICE: DO NOT CROSSTHREAD ITEM #12 COUPLING.
DOING SO WILL CAUSE THE END PIECE OF CORE TO BREAK!***

HEAVY DUTY CLUTCH



ITEM	PART #	DESCRIPTION	QTY
1	4375-F	Rotor Assy. Model 5 - 3/4" Bore (incl. shoes, springs & set screws)	1
1	4376-F	Rotor Assy. Model 7 or 8 - 1" Bore (incl. shoes, springs set screws)	1
2	4179-F	Clutch Drum (incl. pilot bearing and set screws)	1
3	4382	Clutch Spring	3
4	4383-F	Clutch Shoe	3
5	4021-2F	Pilot Bearing	1
6	4320	Set Screw (Rotor & Drum)	4
7	4080	Key - Rotor Model 5	1
7	4081	Key - Rotor Model 7 or 8	1
	4383-KF	Repair Kit (incl. 3 Shoes and 3 Springs)	1



WARNING: DO NOT START ENGINE unless the clutch drum (Item #2) and flexible shaft have been reassembled and clamped into the clutch bracket (See page 11). Starting the engine without the drum in place will cause the clutch shoes to fly off, damaging the machine and possibly causing severe personal injury.

NOTE: Rotor should be shoved all the way on the crankshaft. Put Loctite on #6 set screws and tighten securely. At full throttle, engine speed should not be less than 3600 RPM. Adjust engine idle to release clutch when throttle lever is released. (Approximately 1900 RPM.)

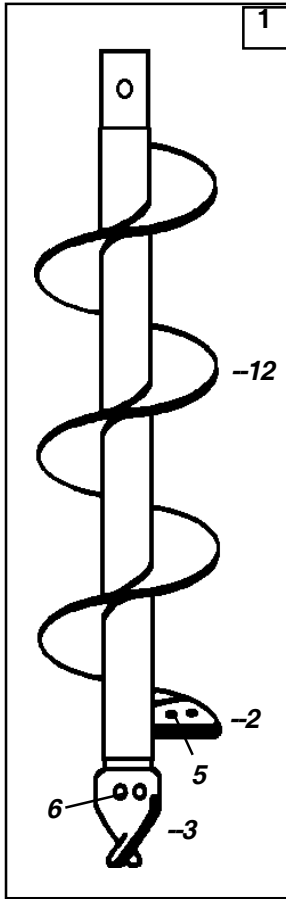
NOTE: To remove rotor from crankshaft, use a ball joint tool. For 7 or 8 HP Models, use a backing plate between the clutch bracket with the ball joint tool.

NOTE: When replacing engine, note that 7 & 8HP engine crankshafts are too long. Cut 1-1/4" off of crank shaft.

AUGERS & ACCESSORIES

ITEM PART# DESCRIPTION

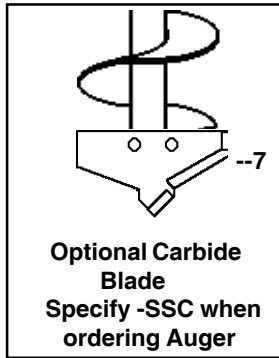
STANDARD AUGER



1	1.5X42-SSS 2.5X42B 2.5X42SP 2X36-SSS 2X42-SSS 3X36-SSS 3X42-SSS 4X36-SSS 4X42-SSS 5X36-SSS 5X42-SSS 6X36-SSS 6X42-SSS 7X36-SSS 7X42-SSS 8X36-SSS 8X42-SSS 9X36-SSS 9X42-SSS 10X36-SSS 10X42-SSS 12X36-SSS 12X42-SSS 14X36-SSS 14X42-SSS 16X36-SSS 16X36-SSSF 16X42-SSSF	1-1/2" X 42" Auger, Snap-on with Screw-on Point 2-1/2" X 42" Bucket Auger, Snap-on 2-1/2" x 42" Spiral Barrel Auger (Soil Sampling) 2" X 36" Auger, Snap-on with Screw-on Point 2" X 42" Auger, Snap-on with Screw-on Point 3" X 36" Auger, Snap-on with Screw-on Point 3" X 42" Auger, Snap-on with Screw-on Point 4" X 36" Auger, Snap-on 4" X 42" Auger, Snap-on 5" X 36" Auger, Snap-on 5" X 42" Auger, Snap-on 6" X 36" Auger, Snap-on 6" X 42" Auger, Snap-on 7" X 36" Auger, Snap-on 7" X 42" Auger, Snap-on 8" X 36" Auger, Snap-on 8" X 42" Auger, Snap-on 9" X 36" Auger, Snap-on 9" X 42" Auger, Snap-on 10" X 36" Auger, Snap-on 10" X 42" Auger, Snap-on 12" X 36" Auger, Snap-on 12" X 42" Auger, Snap-on 14" X 36" Auger, Snap-on 14" X 42" Auger, Snap-on 16" X 36" Auger, Snap-on 16" X 36" Auger, Snap-on, Full Flighted 16" X 42" Auger, Snap-on, Full Flighted
2	9023-4 9023-6 9023-8 9023-9 9023-10 9023-12 9023-14 9023-16	Blade for 4" & 5" Augers Blade for 6" & 7" Augers Blade for 8" Augers Blade for 9" Augers Blade for 10" Augers Blade for 12" Augers Blade for 14" Augers Blade for 16" Augers
3	9027 9027-16	Point, Standard, Fits 4" thru 12" Augers Point, Standard, Fits 14" and 16" Augers
4	9058	Spring & Button
5	9023-S4 9023-S9 9023-S12 9023-S16	Cap Screw & Nut w/Lockwasher, 4" - 8" Blades Cap Screw & Nut w/Lockwasher, 9" - 10" Blades Cap Screw & Nut w/Lockwasher, 12" Blades Cap Screw & Nut w/Lockwasher, 14" - 16" Blades
6	9027-7	Cap Screw & Nut w/Lockwasher, Standard Points

ITEM PART# DESCRIPTION

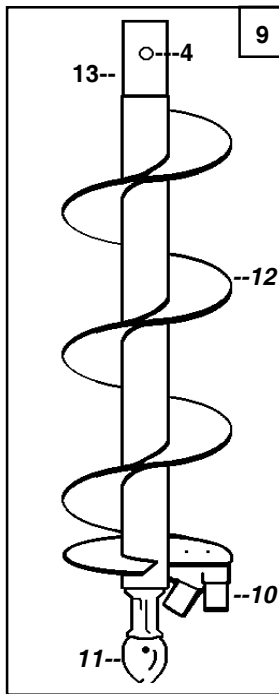
**STANDARD AUGER
WITH CARBIDE POINT**



7	9023-C1.5	Blade, Screw-on, w/Carbide for 1-1/2" Augers
	9023-C2	Blade, Screw-on, w/Carbide for 2: Augers
	9023-C3	Blade w/Carbide for 3" Auger, Inc. Mtng. Bolts/Nuts
	9023-C4	Blade w/Carbide for 4" Auger, " " "
	9023-C5	Blade w/Carbide for 5" Auger, " " "
	9023-C6	Blade w/Carbide for 6" Auger, " " "
	9023-C7	Blade w/Carbide for 7" Auger, " " "
	9023-C8	Blade w/Carbide for 8" Auger, " " "
	9023-C9	Blade w/Carbide for 9" Auger, " " "
	9023-C10	Blade w/Carbide for 10" Auger, " " "
	9023-C12	Blade w/Carbide for 12" Auger, " " "

8	9027-8S	Cap Screw & Lock Nut for Carbides (2 ea.)
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PENGO AUGERS



9	6X36-SSP	6" x 36" Snap-on Auger w/Pengo Point & Blade
	6X42-SSP	6" x 42" Snap-on Auger w/Pengo Point & Blade
	7X36-SSP	7" x 36" Snap-on Auger w/Pengo Point & Blade
	7X42-SSP	7" x 42" Snap-on Auger w/Pengo Point & Blade
	8X36-SSP	8" x 36" Snap-on Auger w/Pengo Point & Blade
	8X42-SSP	8" x 42" Snap-on Auger w/Pengo Point & Blade
	9X36-SSP	9" x 36" Snap-on Auger w/Pengo Point & Blade
	9X42-SSP	9" x 42" Snap-on Auger w/Pengo Point & Blade
	10X36-SSP	10" x 36" Snap-on Auger w/Pengo Point & Blade
	10X42-SSP	10" x 42" Snap-on Auger w/Pengo Point & Blade
	12X36-SSP	12" x 36" Snap-on Auger w/Pengo Point & Blade
	12X42-SSP	12" x 42" Snap-on Auger w/Pengo Point & Blade
10	9023-P35	Blade, Pengo #35 (1 per 6" & 7" Auger, 2 per 8"-12")
	9023-P35HS	Blade, Pengo #35HFF Hardsurfaced (Both sides)
	9023-P1336	Blade, Pengo #1336 w/Carbide
	9023-P35CT	Blade, Pengo w/Carbide
	9023-5T30	Blade, Pengo, Chisel Point
	9023-5T30C	Blade, Pengo, Chisel Carbide Point

11	9027-P	Point, Pengo #SB25
	9027-PC	Point, Pengo #SB-25C w/Carbide

**AUGER REPAIR PARTS
Must be welded.**

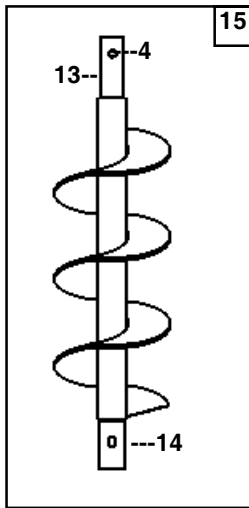
12	FS-3	Flighting, replacement 3" x 37" or 60" Section
	FS-4	Flighting, 4" x 30" or 37" Section
	FS-5	Flighting, 5" x 30" or 37" Section
	FS-6	Flighting, 6" x 30" or 37" Section
	FS-7	Flighting, 7" x 30" or 37" Section
	FS-8	Flighting, 8" x 30" or 37" Section
	FS-9	Flighting, 9" x 30" or 37" Section
	FS-10	Flighting, 10" x 30" or 37" Section
	FS-12	Flighting, 12" x 37" Section
	FS-14	Flighting, 14" x 37" Section
	FS-16	Flighting, 16" x 19" Section

13	9062	Auger Top for 4" thru 10" Augers
	9062-H	Auger Top for 12" thru 16" Augers

14	9062-1	Extension Bottom for 4" thru 10" Extensions
	9062-2	Extension Bottom for 12" thru 14" Extensions

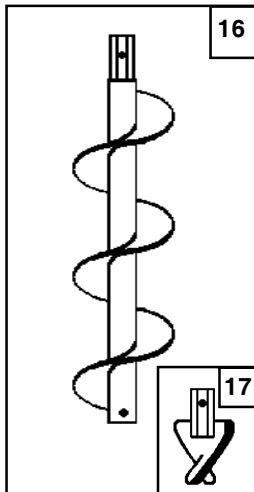
ITEM PART# DESCRIPTION

EXTENSION



15	9054	36" Tube Type Snap-on Extension
	9054-A	18" Tube Type Snap-on Extension
	9054-S1.5X36	1-1/2" x 36" Screw-on Ext. (Must use Screw-on Agr)
	9054-S2X36	2" x 36" Screw-on Ext. (Must use Screw-on Auger)
	9054-S3X36	3" x 36" Screw-on Ext. (Must use Screw-on Auger)
	9054-3X36	3" x 36" Snap-on Extension
	9054-4X36	4" x 36" Snap-on Extension
	9054-5X36	5" x 36" Snap-on Extension
	9054-6X36	6" x 36" Snap-on Extension
	9054-7X36	7" x 36" Snap-on Extension
	9054-8X36	8" x 36" Snap-on Extension
	9054-9X36	9" x 36" Snap-on Extension
	9054-10X36	10" x 36" Snap-on Extension
	9054-12X36	12" x 36" Snap-on Extension
	9054-14X36	14" x 36" Snap-on Extension

HEX AUGER/EXTENSION



16	1.5X36-HSL	1-1/2" x 36" Auger/Extension, Hex, Less Point
	1.5X42-HSL	1-1/2" x 42" Auger/Extension, Hex, Less Point
	2X36-HSL	2" x 36" Auger/Extension, Hex, Less Point
	2X42-HSL	2" x 42" Auger/Extension, Hex, Less Point
	3X36-HSL	3" x 36" Auger/Extension, Hex, Less Point
	3X42-HSL	3" x 42" Auger/Extension, Hex, Less Point
17	9027-H1.5	Point, Hex, 1-1/2"
	9027-H2	Point, Hex, 2"
	9027-H3	Point, Hex, 3"
	9041-2	Pin, Locking, 1-1/2" & 2" Hex Auger/Extensions
	9041-3	Pin, Locking, 3" Hex Auger/Extensions

9040 Spring Ball Plunger, (replace as needed)







ADAPTORS

Auger to Transmission

30272	Adaptor, Keyed, Heavy Duty
9051-GHLB	Adaptor, Ground Hog Drill to LB Auger
9051-GHAS	Adaptor, LB Drill to Ground Hog Auger
9051-GEN	Adaptor, 1-1/4" sq to 1" rd, General
9051-GENS	Adaptor, 1-1/4" sq to 1 3/8" hex, General
9061	Adaptor, Screw-on Auger to Keyed Adaptor
9061-H	Adaptor, 1-1/2" & 2" Hex Auger to Keyed Adaptor
9061-H3	Adaptor, 3" Hex Auger to Keyed Adaptor
9061-A	Adaptor, Drill Chuck to Keyed Adaptor

NOTES:

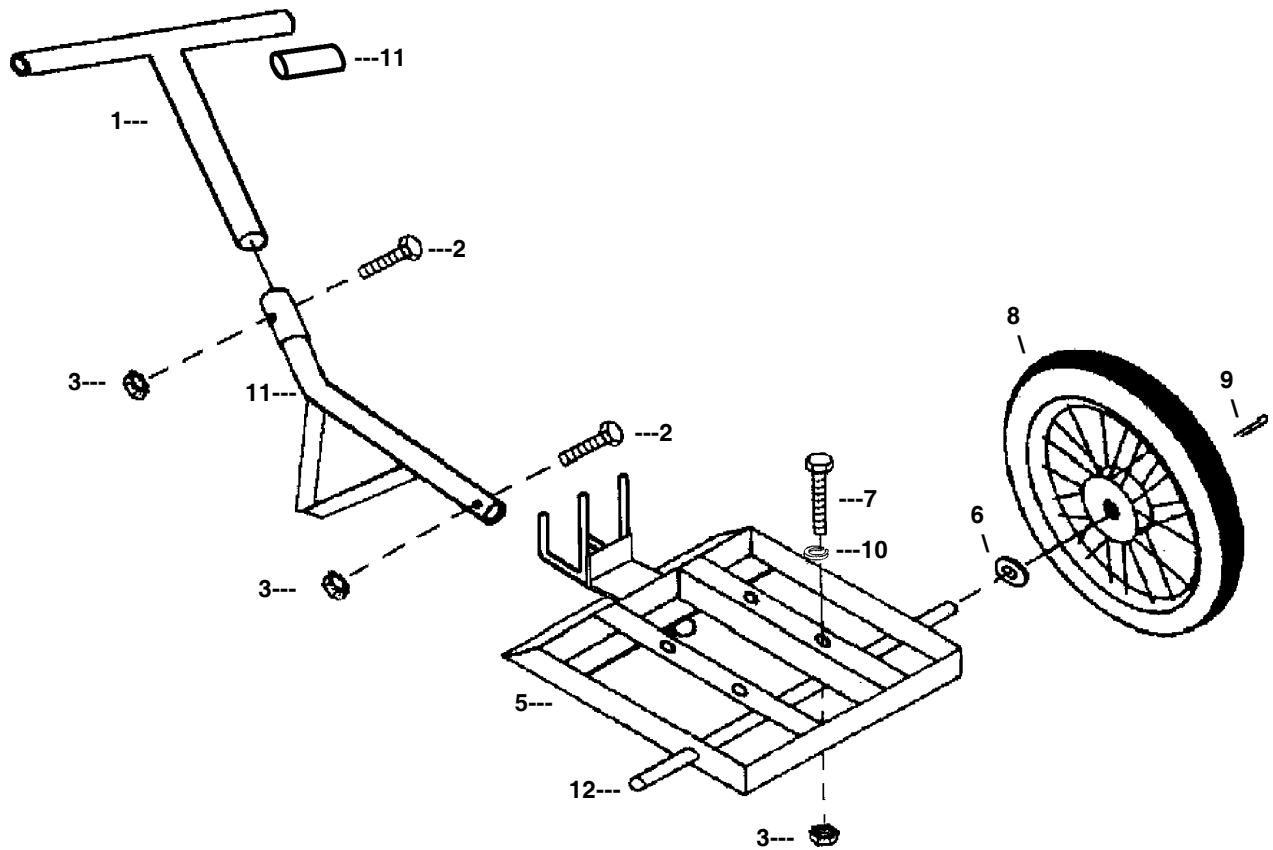
TORQUE INFORMATION

 TYPE SIZE	HEX HEAD			SOCKET	
	 GRADE 5 ft. lb.	 GRADE 8 ft. lb.	 WRENCH SIZE inch	 ft. lb.	 WRENCH SIZE
No. 4	6 in lb	9 in lb	1/4"	12 in lb	3/32"
No. 6	12 in lb	17 in lb	5/16"	21 in lb	7/64"
No. 8	22 in lb	31 in lb	11/32"	42 in lb	9/64"
No.10	32 in lb	45 in lb	3/8"	60 in lb	5/32"
1/4"	6 ft lb	9 ft lb	7/16"	12 ft lb	3/16"
5/16"	13 ft lb	19 ft lb	1/2"	24 ft lb	1/4"
3/8"	23 ft lb	33 ft lb	9/16"	43 ft lb	5/16"
7/16"	37 ft lb	52 ft lb	5/8"	69 ft lb	3/8"
1/2"	56 ft lb	80 ft lb	3/4"	105 ft lb	3/8"
9/16"	82 ft lb	115 ft lb	13/16"	158 ft lb	-----
5/8"	112 ft lb	159 ft lb	15/16"	195 ft lb	1/2"
3/4"	200 ft lb	282 ft lb	1-1/8"	353 ft lb	5/8"

ENGLISH TO METRIC CONVERSION CHART

1 ft lb	=	1.357 nm	1 nm	=	.737 ft lb
1 inch	=	25.4 mm	1 mm	=	.03937 inch
1 ft	=	30.48 cm	1 cm	=	.3937 inch
1 yard	=	.9144 meters	1 m	=	39.37 inch
			1 m	=	3.281 feet
			1 m	=	1.094 yard
1 cubic in.	=	16.39 cc	1 cc	=	.061 cubic in.
1 pint	=	.4732 liter	1 liter	=	2.113 pints
1 quart	=	.9463 liter	1 liter	=	1.057 quart
1 gallon	=	3.785 liter	1 liter	=	.2642 gallon
1 ounce	=	28.349 grams	1 gram	=	.03527 ounces
1 pound	=	453.59 grams			
1 pound	=	.4536 kg	1 kg	=	2.2046 lbs

**THINK
SAFETY
FIRST!**



RICK-SHA HANDLE AND CARRIER

ITEM	PART #	DESCRIPTION	QTY
1	6000	Pull Handle - Upper	1
2	3010-9	Screw - 5/16 x 2 Gr 2	2
3	3002-KEP	Nut - 5/16 KEP (Nut w/Lock Washer)	6
4	6001	Pull Handle - Lower	1
5	6002	Carrier - 5 HP	1
	6002-7	Carrier - 7 & 8 HP	1
6	30164	Flat Washer - 3/4"	2
7	3002	Screw - 5/16 x 1-1/2 Gr 2	4
8	6003	Wheel, 20"	2
9	30163	Cotter Key - 1/8" x 1"	2
10	3002-B	Washer, Flat 5/16"	4
11	30194	Grip, Handle	2
12	9-36005	Axle, Rick Sha, 26"	1