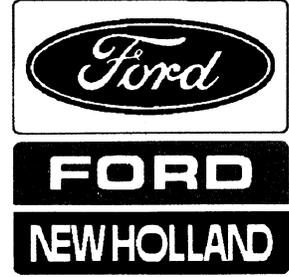
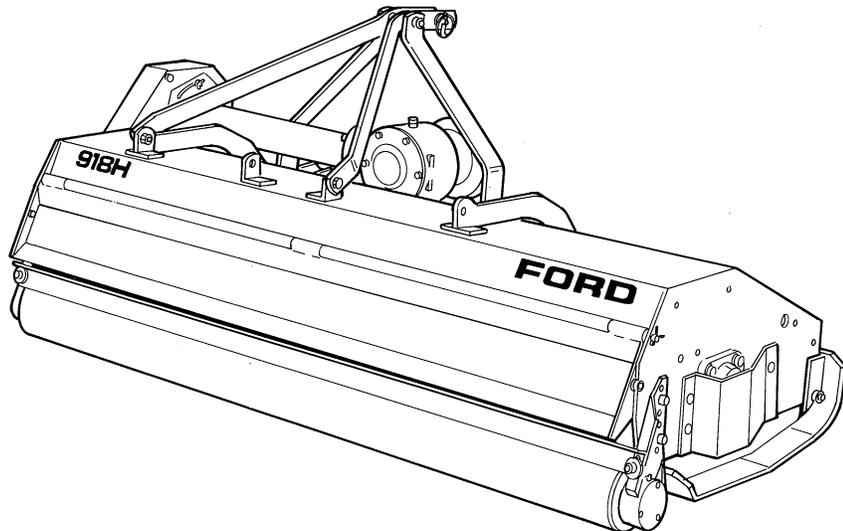
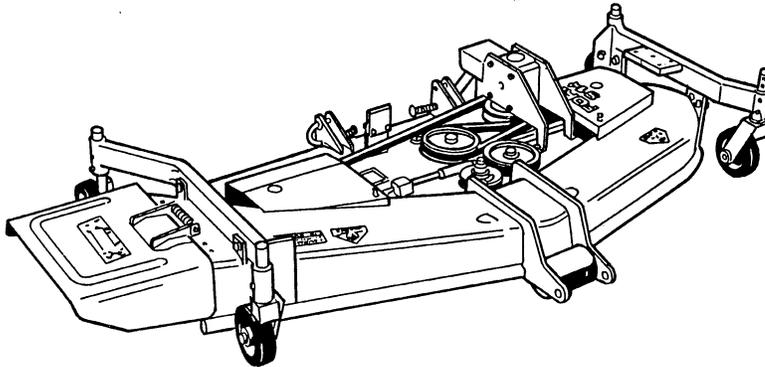


FORD



Service Manual

900 Series Implements





CAUTION! THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER PERSONAL SAFETY IS INVOLVED. TAKE TIME TO READ AND FOLLOW THE INSTRUCTIONS. BE CAREFUL!

Sample of manual. Download All 174 pages at:

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INTRODUCTION SAFETY PRECAUTIONS



Practically all Service work involves the need to drive a tractor. The Operator's Manual, supplied with each tractor or implement, contains detailed safety precautions relating to Driving, Operating and Servicing. These precautions are as applicable to the service technician as they are to the operator, and should be read, understood and practiced by all personnel.

Prior to undertaking any maintenance, repair, overhaul, dismantling or re-assembly operations, whether within a workshop facility or out "in the field", consideration should be given to factors that may have an effect upon Safety, not only upon the mechanic carrying out the work, but also upon bystanders.

PERSONAL CONSIDERATIONS

- The wrong clothes or carelessness in dress can cause accidents. Check to see that you are suitably clothed.

Some jobs require special protective equipment.

- **Eye Protection**
The smallest eye injury may cause loss of vision. Injury can be avoided by wearing eye protection when engaged in chiselling, grinding, discing, welding, painting, etc.
- **Breathing Protection**
Fumes, dust and paint spray are unpleasant and harmful. These can be avoided by wearing respiratory protection.
- **Hearing Protection**
Loud noise may damage your hearing and the greater the exposure the worse the damage. If you feel the noise excessive, wear ear protection.
- **Hand Protection**
It is advisable to use a protective cream before work to prevent irritation and skin contamination. After work clean your hands with soap and water. Solvents such as white spirit, paraffin, etc., may harm the skin.
- **Foot Protection**
Substantial or protective footwear with reinforced toe-caps will protect your feet from falling objects. Additionally, oil-resistant soles will help to avoid slipping.

- **Special Clothing**
For certain work it may be necessary to wear flame or acid-resistant clothing.
- Avoid injury through incorrect handling of components. Make sure you are capable of lifting the object. If in doubt get help.

EQUIPMENT CONSIDERATIONS

- **Machine Guards**
Before using any machine, check to ensure that the machine guards are in position and serviceable. These guards not only prevent parts of the body or clothing coming in contact with the moving parts of the machine, but also ward off objects that might fly off the machine and cause injury.
- **Lifting Appliances**
Always ensure that lifting equipment, such as chains, slings, lifting brackets, hooks and eyes are thoroughly checked before use. If in doubt, select stronger equipment than is necessary.

Never stand under a suspended load or raised implement.
- **Compressed Air**
The pressure from a compressed air line is often as high as 100 psi (6.9 bar) 7 (kgf/cm²). It is perfectly safe if used correctly. Any misuse may cause injury.

Never use compressed air to blow dust, filing, dirt, etc., away from your work area unless the correct type of nozzle is fitted and eye protection is used.

Compressed air is not a cleaning agent, it will only move dust, etc., from one place to another. Look around before using an air hose as bystanders may get grit into their eyes, ears or skin.
- **Hand Tools**
Many cuts, abrasions and injuries are caused by defective tools. Never use the wrong tool for the job, as this generally leads either to some injury, or to a poor job.

Never use

- A hammer with a loose head or split handle.
- Spanners or wrenches with splayed or worn jaws.
- Spanners or files as hammers; or drills, clevis pins or bolts as punches.

For removing or replacing hardened pins use a copper or brass drift rather than a hammer.

For dismantling, overhaul and assembly of major and sub components, always use the Special Service Tools recommended.

These will reduce the work effort, labor time and the repair cost.

Always keep tools clean and in good working order.

- **Electricity**

Electricity has become so familiar in day to day usage, that its potentially dangerous properties are often overlooked. Misuse of electrical equipment can endanger life.

Before using any electrical equipment — particularly portable appliances — make a visual check to make sure that the cable is not worn or frayed and that the plugs, sockets, etc., are intact. Make sure you know where the nearest isolating switch for your equipment is located.

GENERAL CONSIDERATIONS

- **Solvents**

Use only cleaning fluids and solvents that are known to be safe. Certain types of fluids can cause damage to components such as seals, etc., and can cause skin irritation. Solvents should be checked that they are suitable not only for the cleaning of components and individual parts, but also that they do not affect the personal safety of the user.

- **Housekeeping**

Many injuries result from tripping or slipping over, or on, objects or material left lying around by a careless worker. Prevent these accidents from occurring. If you notice a hazard, don't ignore it — remove it.

A clean, hazard-free place of work improves the surroundings and daily environment for everybody.

- **Fire**

Fire has no respect for persons or property. The destruction that a fire can cause is not always fully realized. Everyone must be constantly on guard.

- Extinguish matches/cigars/cigarettes, etc., before throwing them away.
- Work cleanly, disposing of waste material into proper containers.
- Locate the fire extinguishers and find out how to operate them.
- Do not panic — warn those near and raise the alarm.
- Do not allow or use an open flame near the fuel tank, battery or component parts.

- **First Aid**

In the type of work that mechanics are engaged in, dirt, grease, fine dusts, etc. all settle upon the skin and clothing. If a cut, abrasion or burn is disregarded it may be found that a septic condition has formed within a short time. What appears at first to be trivial could become painful and injurious. It only takes a few minutes to have a fresh cut dressed, but it will take longer if you neglect it. Make sure you know where the First Aid box is located.

- **Cleanliness**

Cleanliness of the tractor hydraulic system is essential for optimum performance. When carrying out service and repairs plug all hose ends and component connections to prevent dirt entry.

Clean the exterior of all components before carrying out any form of repair. Dirt and abrasive dust can reduce the efficiency and working life of a component and lead to costly replacement. Use of a high pressure washer or steam cleaner is recommended.

OPERATIONAL CONSIDERATIONS

- Stop the engine, if at all possible, before performing any service.
- Place a warning sign on tractors which, due to service or overhaul, would be dangerous to start. Disconnect the battery leads if leaving such a unit unattended.
- Do not attempt to start the engine while standing beside the tractor or attempt to by-pass the safety start switch.
- Avoid prolonged running of the engine in a closed building or in an area with inadequate ventilation as exhaust fumes are highly toxic.

- Always turn the radiator cap to the first stop, to allow pressure in the system to dissipate when the coolant is hot.
- Never work beneath a tractor which is on soft ground. Always take the unit to an area which has a hard working surface — concrete for preference.
- If it is found necessary to raise the tractor or implement for ease of servicing or repair, make sure that safe and stable supports are installed, beneath axle housings, casings, etc., before commencing work.
- Certain repair or overhaul procedures may necessitate “separating the tractor”, either at the engine/front transmission or front transmission/rear transmission locations. These operations are simplified by the use of the Tractor Splitting Kit/Stand. Should this equipment not be available, then every consideration must be given to stability, balance and weight of the components, especially if a cab is installed.
- Use footsteps or working platforms when servicing those areas that are not within easy reach.
- Before loosening any hoses or tubes connecting implements to remote control valves, etc., switch off the engine, remove all pressure in the lines by operating levers several times. This will remove the danger of personal injury by oil pressure.
- Prior to pressure testing, make sure all hoses and connectors not only of the tractor and implement, but also those of the test equipment, are in good condition and tightly sealed. Pressure readings must be taken with the gauges specified. The correct procedure should be rigidly observed to prevent damage to the system or the equipment, and to eliminate the possibility of personal injury.
- When equipment or implements are required to be attached to the hydraulic linkage, either for testing purposes or for transportation, then “position control” should be used.
- Always lower equipment to the ground when leaving the tractor.
- If high lift attachments are installed on a tractor beware of overhead power, electric or telephone cables when traveling. Drop attachment near to ground level to increase stability and minimize risks.
- Do not park or attempt to service a tractor on an incline. If unavoidable, take extra care and block all wheels.
- Observe recommended precautions as indicated in this Service Manual when dismantling the air conditioning system as escaping refrigerant can cause frostbite.
- Prior to removing wheels and tires from a tractor, check to determine whether additional ballast (liquid or weights) has been added. Seek assistance and use suitable equipment to support the weight of the wheel assembly.
- When inflating tires beware of over inflation — constantly check the pressure. Over inflation can cause tires to burst and result in personal injury.

Safety precautions are very seldom the figment of someone’s imagination. They are the result of sad experience, where most likely someone has paid dearly through personal injury.

Heed these precautions and you will protect yourself accordingly. Disregard them and you may duplicate the sad experience of others.

SERVICE TECHNIQUES

SERVICE SAFETY

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all motor vehicles as well as the personal safety of the individual doing the work. This Service Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing vehicles, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish that he compromises neither his personal safety nor the vehicle's integrity by his choice of methods, tools or parts.

SERVICE TECHNIQUES

Clean the exterior of all components before carrying out any form of repair. Dirt and abrasive dust can reduce the efficient working life of a component and lead to costly replacement.

Time spent on the preparation and cleanliness of working surfaces will pay dividends in making the job easier and safer and will result in overhauled components being more reliable and efficient in operation.

Use cleaning fluids which are known to be safe. Certain types of fluid can cause damage to O-rings and cause skin irritation. Solvents should be checked that they are suitable for the cleaning of components and also that they do not risk the personal safety of the user.

Replace "O"-rings, seals or gaskets whenever they are disturbed. Never mix new and old seals or O-rings, regardless of condition. Always lubricate new seals and "O"-rings with hydraulic oil before installation.

When replacing component parts use the correct tool for the job.

HOSES AND TUBES

Always replace hoses and tubes if the cone end or the end connections are damaged.

When installing a new hose, loosely connect each end and make sure the hose takes up the designed position

before tightening the connection. Clamps should be tightened sufficiently to hold the hose without crushing and to prevent chafing.

The hoses are the arteries of the unit, be sure they are in good condition when carrying out repairs or maintenance, otherwise the machine's output and productivity will be affected.

After hose replacement to a moving component check that the hose does not foul by moving the component through the complete range of travel.

Be sure any hose which has been installed is not kinked or twisted.

Hose connections which are damaged, dented, crushed or leaking, restrict oil flow and the productivity of the components being served. Connectors which show signs of movement from the original swaged position have failed, and will ultimately separate completely.

A hose with a chafed outer cover will allow water entry. Concealed corrosion of the wire reinforcement will subsequently occur along the hose length with resultant hose failure.

Ballooning of the hose indicates an internal leakage due to structural failure. This condition rapidly deteriorates and total hose failure soon occurs.

Kinked, crushed, stretched or deformed hoses generally suffer internal structural damage which can result in oil restriction, a reduction in the speed of operation and ultimate hose failure.

Free-moving, unsupported hoses must never be allowed to touch each other or related working surfaces. This causes chafing which reduces hose life.

BEARINGS

Bearings which are considered suitable for further service should be cleaned in a suitable solvent and immersed in clean lubricating oil until required.

Installation of a bearing can be classified in two ways: press fit on rotating parts such as shafts, and gears, and push fit into static locations such as reduction gear housings. Where possible, always install the bearing onto the rotating component first.

Use the correct tools or a press, to install a bearing or bushing. In the absence of the correct tools or press, heat the bearings and/or the casing in hot oil to assist the installation of the bearing.

When bearings or bushings are removed always carefully check that the bearing is free from discoloration and signs of over-heating. Also check for mechanical damage such as excessive clearance, nicks and scuffing. If in doubt replace the bearings or bushings.

Bearings should never be removed unless absolutely necessary. Always use the recommended puller to reduce the risk of bearing or related component damage.

The reliability and durability of a unit depends on the effective operation of the many types of bearings and bushings which are incorporated in the complete assembly.

These bearings and bushings are subjected, in normal operation, to high working loads and adverse conditions.

Be sure during normal routine servicing, maintenance or repair that bearings are given the right attention and are installed with care.

PRESSURE TESTING

Prior to pressure testing be sure all hoses are in good condition and all connections tight. Pressure readings must be taken with gauges of specified pressure ratings.

The correct procedure should be rigidly observed to prevent damage to the system or the equipment and to eliminate the possibility of personal injury.

PART 0 GENERAL INFORMATION

Chapter 1 DRIVELINE

Section	Page
A. COMPONENT REPAIR	0.1-1
B. SIZING DRIVELINE	0.1-4

A. COMPONENT REPAIR

Ford New Holland implements are manufactured by various suppliers using several different PTO shaft designs. Although the PTO shafts are not identical, they are similar in most respects.

There may be differences in the method of retaining the shaft to the tractor or implement, retention of the universal joint bearing cups (outside vs inside snap ring), and rotating safety shield removal.

This part is a general overview of the disassembly and assembly of one PTO shaft. The methods described can be used as a guide for any Ford New Holland implement.

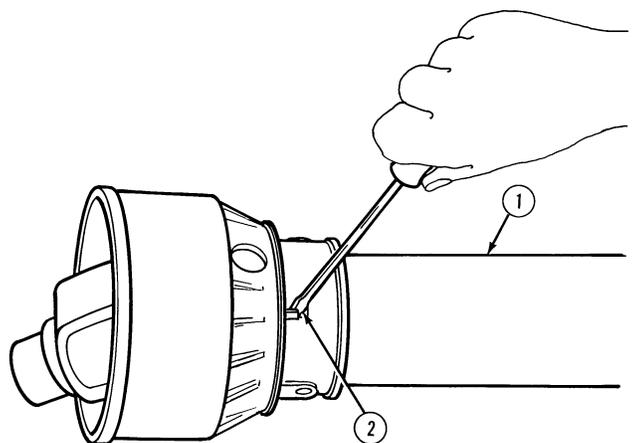


Figure 1

PTO SHAFT REMOVAL

1. Disconnect the PTO shaft from the tractor. There are several methods used to release the PTO shaft from the tractor including rotation of the collars, sliding the collar forward or backward, or a latch pin. The method used depends on the supplier.
2. Disconnect the PTO shaft from the implement. The implement end may be disconnected by depressing a latch pin, rotation of a collar, or if a shear bolt is used, it may be held on by a snap ring. The method used depends on the supplier.

of bending of the slip joint is present, the shaft must be replaced. Examine the bearing ring for nicks or burrs.

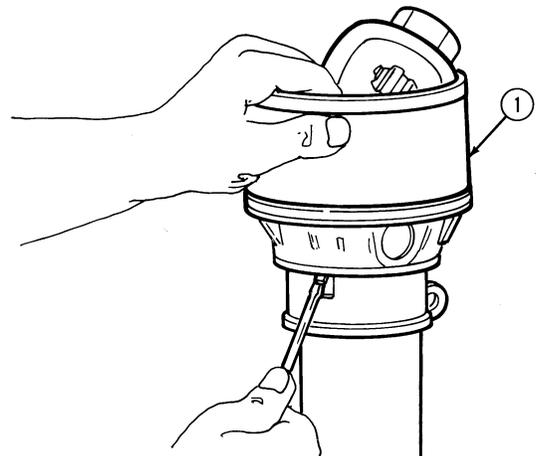


Figure 2

PTO SHAFT DISASSEMBLY

1. Remove the rotating shield (1), Figure 1, by removing the locking screw (2) and aligning the bearing tabs with the cone pockets. Remove the half guard (1), Figure 2, and bearing ring (1), Figure 3. Examine the shaft for dents or gauling in the area of the slip joint. If a dent or evidence

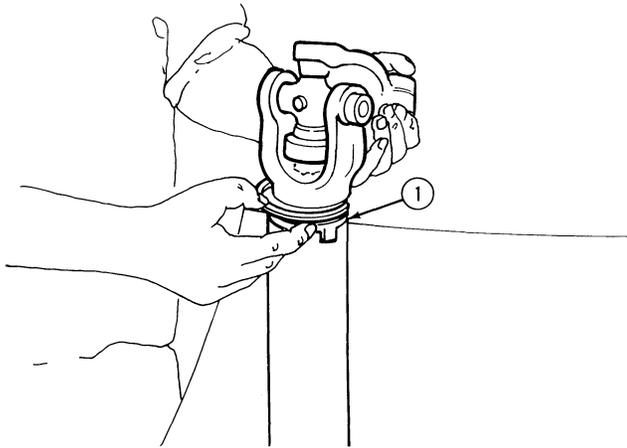


Figure 3

2. Depress the lock collar (1), Figure 4, and remove the snap ring (2). Remove the lock collar (1), compression spring (2) and balls (3), Figure 5. Examine all parts for nicks or burrs. Replace parts as required.

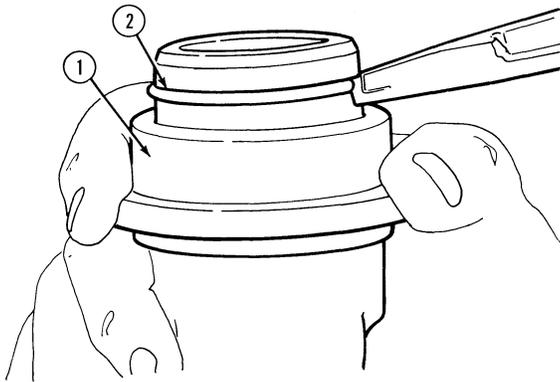


Figure 4

PTO SHAFT REASSEMBLY

1. Install the balls (3), Figure 5, compression spring (2), and lock collar (1). Compress the spring with the lock collar and install the snap ring.
2. Install the bearing ring (1), Figure 3. Install the half guard and retaining screw.

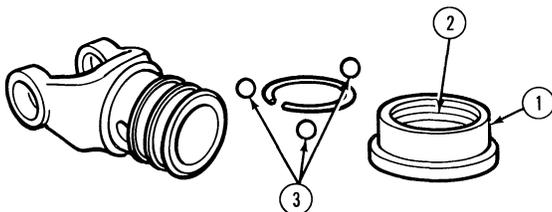


Figure 5

UNIVERSAL JOINT DISASSEMBLY

1. Separate the PTO shaft at the slip joint.
2. Thoroughly clean the universal joint with solvent and air dry.
3. Remove the snap rings (1), Figure 6, that hold the bearing cups in the yoke. The snap rings may be inside the yoke (as shown) or on the outside depending on the supplier.

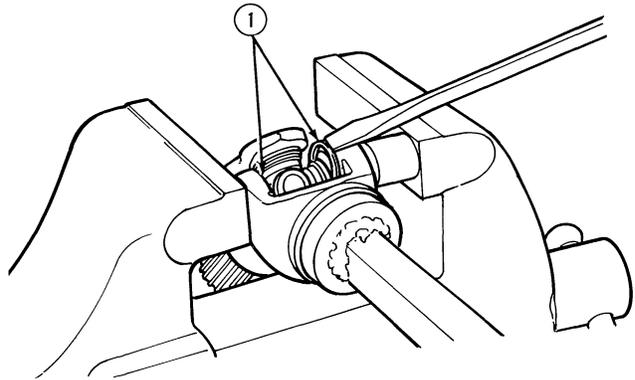


Figure 6

4. It will be necessary to choose a socket or a piece of pipe that will just fit (1/32" clearance), in the bearing cup bore in the yoke. Also choose a socket or a piece of pipe that is slightly larger (1/32" clearance), than the bearing cup bore in the yoke.
5. Place the universal joint in a press or large vise with the larger socket (1), Figure 7, or pipe supporting the yoke and the smaller socket (2), Figure 7, or pipe against the bearing cup.
6. Increase the load on the press or tighten the vise until the universal joint cross is pressed as far as it can move. Remove the assembly from the press or vise. If the bearing cup is out of the bore, proceed to step 8, if not, proceed to step 7.

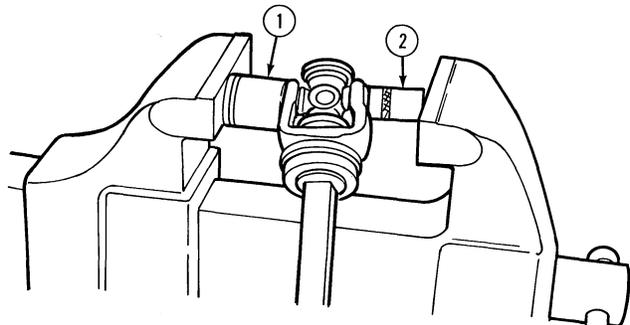


Figure 7

7. Place the protruding portion of the bearing cup in the vise and just snug the jaws so the bearing cup will not be distorted. Use a prying motion on the yoke to work the bearing cup out of the yoke as shown in Figure 8.

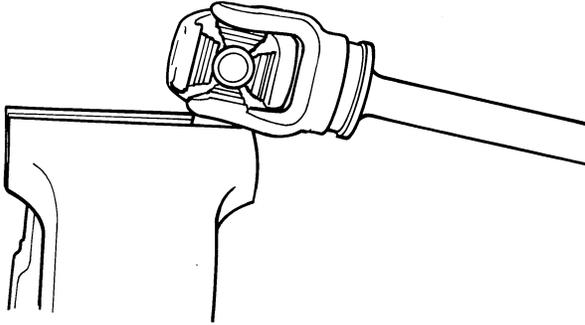


Figure 8

8. Insert the yoke in the vise with the smaller socket against the cross and the larger socket supporting the yoke as shown in Figure 9.
9. Tighten the vise until the cross is pressed as far as it can move. Loosen the vise and remove the bearing cup as described in step 7.
10. Remove the cross from the yoke and examine it and the bearing cups for evidence of scoring or discoloration on the bearing surfaces. Examine the needle bearings for scoring or wear. Replace the cross and bearing cups if required. Use this procedure for all of the bearing cups. Replace the cross and bearings as an assembly.

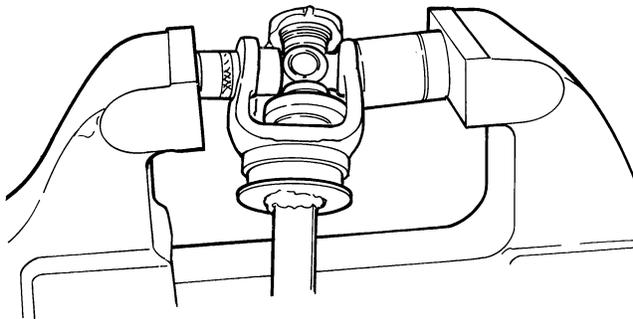


Figure 9

UNIVERSAL JOINT ASSEMBLY

1. Thoroughly lubricate the bearings cups with a good grade of grease. If a new cross and bearing cups are being installed, they will be pre-lubricated.
2. Place the cross in the center of the yoke and start a bearing cup using hand pressure only.
3. Place the yoke in a large vise with the jaws tight against the bearing cup. Slowly tighten the vise while moving the cross to assure it moves into the bearing cup correctly, as shown in Figure 10. Repeat this procedure for the other bearing cup.
4. When the bearing cups are flush with the end of the yoke loosen the vise and place the smaller socket against one of the bearing cups and press it in until the snap ring can be replaced, as shown in Figure 11.

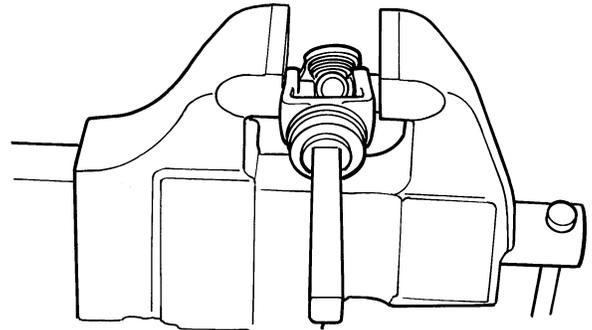


Figure 10

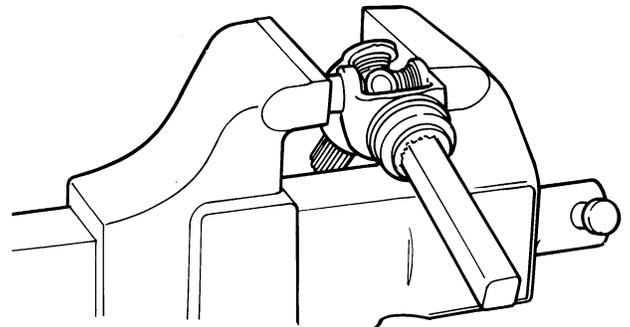


Figure 11

- Loosen the vise and repeat step 4 for the other bearing cup. Install the snap ring (1), Figure 12, in the yoke.

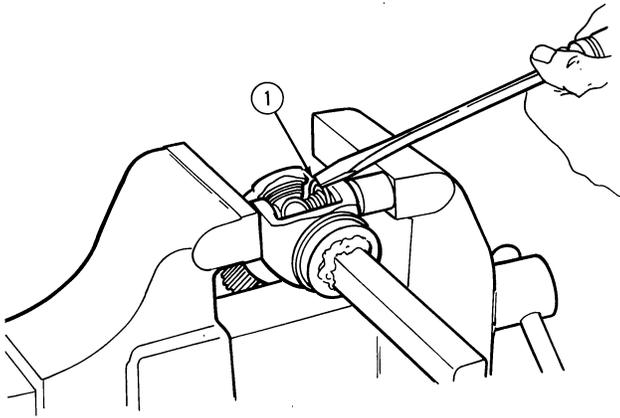


Figure 12

- Rotate the cross by hand. The cross must rotate smoothly, however, it may rotate somewhat tight. This assembly procedure should be used for all of the bearing cups.

NOTE: *If the joint is stiff strike the yoke ears with a soft hammer to seat the needle bearing.*

PTO SHAFT INSTALLATION

- Slide the slip joint together and lubricate with a good grade of grease.
- Reassemble the rotating shield to the PTO shaft.
- Attach the PTO shaft to the implement by depressing the latch pin shaft until it latches.
- Attach the PTO shaft to the tractor by sliding the coupling until it releases and slide it on the shaft until it latches.
- Replace all safety shields.

B. SIZING DRIVELINE

Due to the many variations in tractor/implement hitch points and corresponding differences in distances between tractor P.T.O. shafts and implement input shafts, drivelines may need to be shortened as described in the following steps:

- Attach the implement to the tractor lift arms and level right to left.

0.1-4

- Adjust the tractor top link until the implement gearbox input shaft is parallel with the tractor PTO shaft as shown in Figure 13.

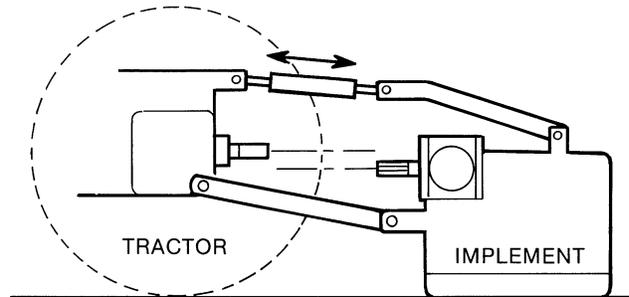


Figure 13
Implement Level

- Raise the implement until the gearbox input shaft is level with the tractor PTO shaft as shown in Figure 14.
- Install the rear driveshaft half onto the implement gearbox.

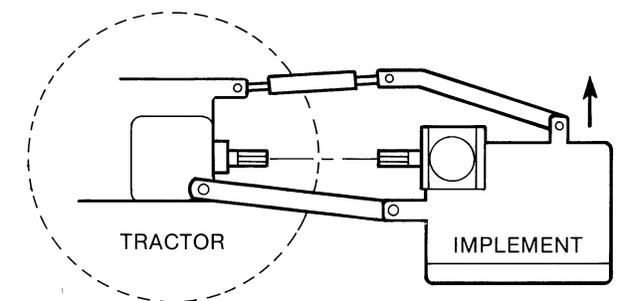


Figure 14
Implement Raised Driveline Level

- Hold the tractor end of the driveshaft against the rear end of tractor PTO shaft, then align the front and rear driveshaft halves side-by-side.

- Determine the excess driveshaft length by measuring from the rearmost edge of the front half shield to just behind the bell-shaped shield on the rear driveshaft half as shown at (2), Figure 15.

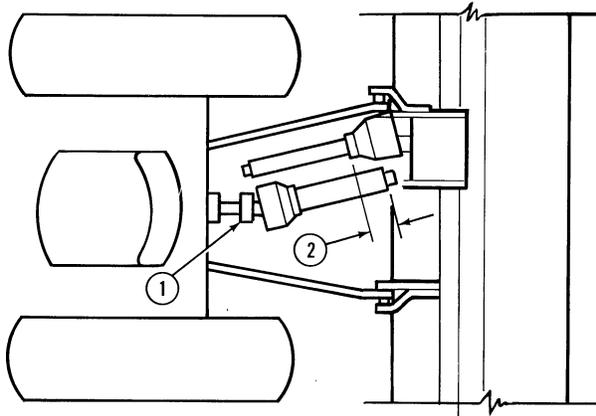


Figure 15
Driveline Overlap

- End of Tractor PTO Shaft
- Driveline Cutoff Dimension

- Hold the driveline sections parallel to each other and check for a minimum of 5" overlap as shown at, (1), Figure 16. The overlap will be the distance between the two marks on the shields. If the driveline has less than minimum overlap, **DO NOT USE**. Recheck the mounting of the implement. Adjust the top link to assure the implement is level front to rear. Adjust the lower links to assure the implement is level right to left.

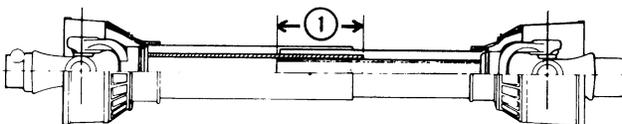


Figure 16
Driveline Overlap

- 5" (127 mm) Minimum

- Clamp the driveline in a well padded vice to prevent damage to the shield. Cut off the shield where it was marked in step 6 as shown in Figure 17.

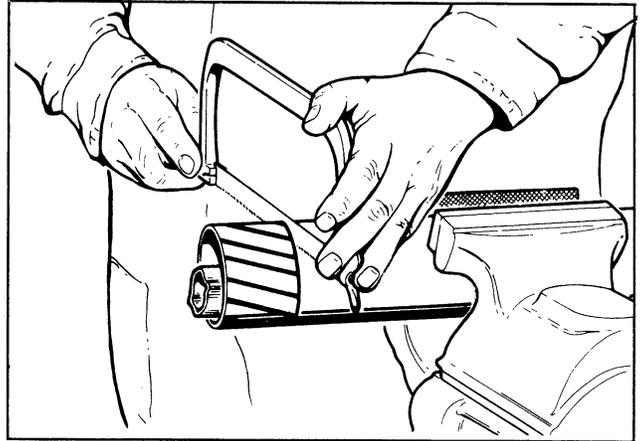


Figure 17
Cutting Shield

- Using the cut off section as a guide, cut the shaft the same amount. (Figure 18)

NOTE: *The shaft should be longer than the shield before and after sizing.*

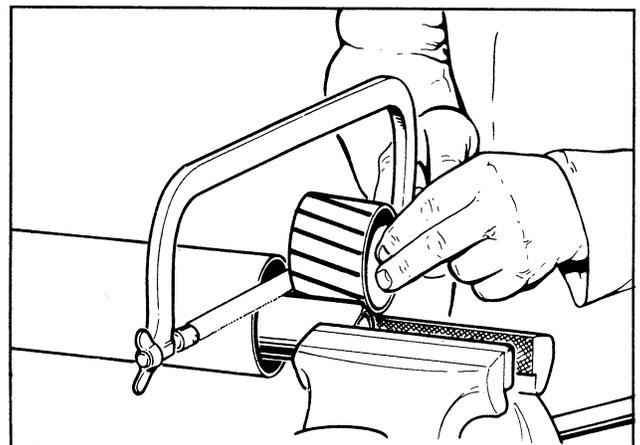


Figure 18
Cutting Shaft

- Repeat steps "8" and "9" to the other driveline section.

11. Deburr the ends of the driveline sections and clean away all chips and filings as shown in Figure 19.

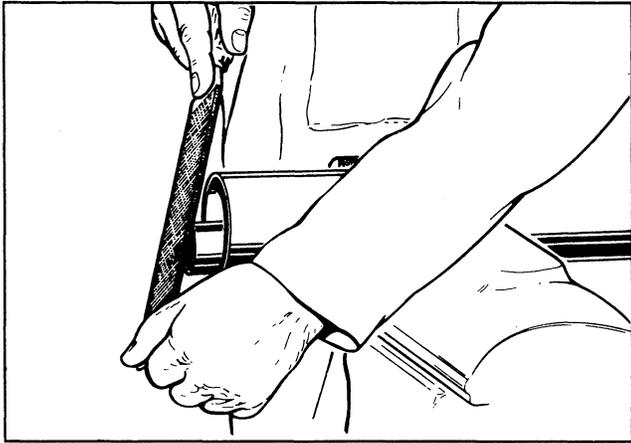


Figure 19
Deburring Shaft

12. Apply grease to the outside of the inner (male) driveline section as shown in Figure 20. Assemble the driveline and install on the tractor and implement. Pull on each driveline section to be sure the yokes lock into place. Make certain the driveline shielding is in place.

Raise and lower the implement to both extremes to assure the driveline does not come apart nor bottom out.

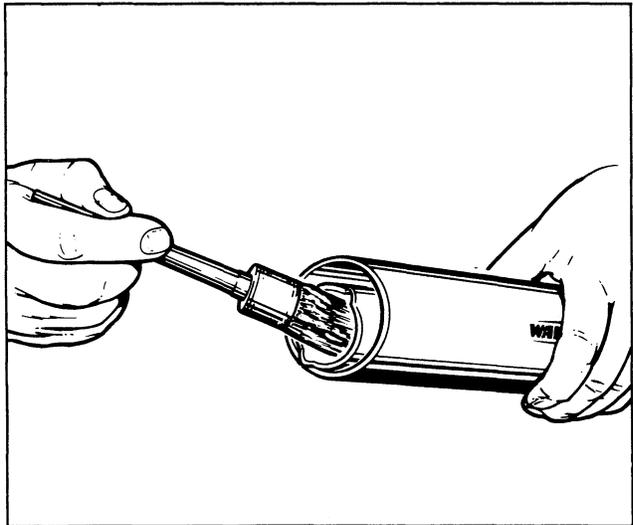


Figure 20
Lubrication

PART 0 GENERAL INFORMATION

Chapter 2 TORQUE SPECIFICATIONS

Section	Page
A. TORQUE SPECIFICATIONS	0.2-2

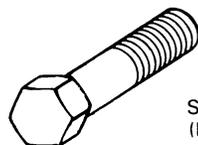
PART 0 — GENERAL INFORMATION

A. TORQUE SPECIFICATIONS

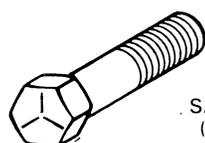
Proper torque for American fasteners used on Ford New Holland equipment. Recommended Torque in Foot Pounds (Newton Meters).*

AMERICAN

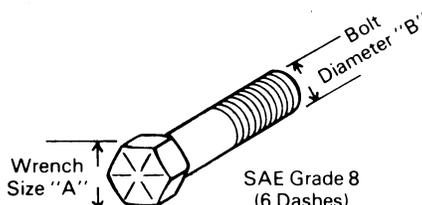
Bolt Head Markings



SAE Grade 2
(No Dashes)



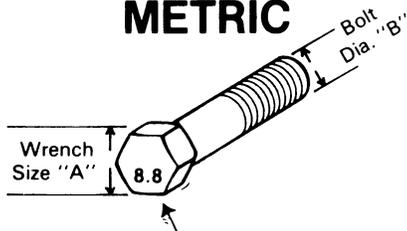
SAE Grade 5
(3 Dashes)



WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 20 UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 28 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
1	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
1	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (402)	420 (569)
1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288 (1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

Proper torque for metric fasteners used on Ford New Holland equipment. Recommended Torque in Foot Pounds (Newton Meters).*

METRIC



Numbers appearing on bolt heads indicate ASTM class.

Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM CLASS 4.8	ASTM CLASS 8.8	ASTM CLASS 9.8	ASTM CLASS 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)	19 (26)	21.1 (29)	27 (37)
16	10	14.5 (20)	38 (52)	42 (57)	53 (72)
18	12	25 (34)	67 (91)	73 (99)	93 (126)
21	14	40 (54)	107 (145)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
41	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

FOR BOLTS USED WITH WAXED PREVAILING TORQUE LOCKNUTS, TORQUE SHOULD BE 70% OF VALUES SHOWN IN CHART

PART 9

SERIES 900 IMPLEMENTS

Chapter 1

906 POST HOLE DIGGERS

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B.	TRACTOR REQUIREMENTS	9.1-2
C.	ASSEMBLY AND OPTIONAL ATTACHMENTS	9.1-2
D.	ATTACHING THE IMPLEMENT	9.1-8
E.	DETACHING THE IMPLEMENT	9.1-10
F.	OPERATION AND ADJUSTMENTS	9.1-11
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H.	PARTS IDENTIFICATION	9.1-20
I.	TROUBLE SHOOTING	9.1-22

A. GENERAL INFORMATION AND SPECIFICATIONS

The Ford Series 906 Post Hole Diggers are auger type PTO driven diggers. They require a 1-3/8" 6-splined PTO.

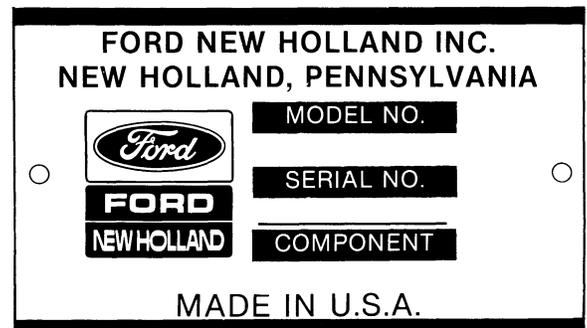
The Ford Series 906 Light Duty Post Hole Digger is designed for use on tractors with a Category I three-point hitch. It is capable of digging holes 6" to 9" in diameter and 42" deep. Optional 9" and 14" auger extensions are available to increase digging depth.

The Ford Series 906 Medium Duty Post Hole Digger is designed for use on tractors with either a Category I or Category II three-point hitch. It is capable of digging holes 6" to 24" in diameter and 42" deep. Optional 9" and 14" auger extensions are available to increase digging depth.

The Ford Series 906 Heavy Duty Post Hole Digger is designed for use on tractors with either Category I or Category II three-point hitch. It is capable of digging

holes 6" to 24" in diameter and 42" deep. Optional 9" and 14" auger extensions are available to increase digging depth.

The serial number plate is located on the right side of the boom arm near the top link hole.



SPECIFICATIONS

	Light Duty	Medium Duty	Heavy Duty
Frame			
Mast	3'' (76 mm)	3'' (76 mm)	3'' (76 mm)
Boom	3.5'' (89 mm)	3.5'' (89 mm)	3.5'' (89 mm)
Gearbox Ratio	2.92:1.00	3.18:1.00	4.00:1.00
Protection	Shear bolt 1/4''-20	Shear bolt 3/8''-16	Slip Clutch
Oil Capacity	1.20 qt. (1.13 l)	2.26 qt. (2.14 l)	3.1 qt. (2.9 l)
PTO Shaft			
Universal Joint Yoke	1.25'' (32 mm)	1.25'' (32 mm)	1.375'' (35 mm)
Bearing	Bushing	Needle	Needle
Auger Diameter	6'' to 9''	6'' to 18''	6'' to 24''
Digging Depth	42''	42''	42''
Optional Extensions	+9''/ +14''	+9''/ +14''	+9''/ +14''
Down Pressure	N/A	N/A	Optional

B. TRACTOR REQUIREMENTS

The horsepower for the Ford Series 906 Post Hole Diggers as listed in the following table is the maximum recommended and the rated PTO speed must not be exceeded.

	Light Duty	Medium Duty	Heavy Duty
Tractor Rated			
PTO Horsepower	15-35	30-55	50-90
Three-Point			
Hitch Category	I	I-II	I-II
PTO Speed/RPM	540	540	540

TRACTOR WEIGHTING

When using three-point mounted equipment, use ballast in the front tires or front tractor weights. Tractor front end weight should be at least 20% of the total tractor weight with the implement raised.

TRACTOR STABILIZERS

Tractor three-point hitch stabilizers are required for post hole digger operation.

**C. ASSEMBLY AND
OPTIONAL ATTACHMENTS**

POST HOLE DIGGER

Main Frame Assembly
Refer to Figure 1

1. For the medium and heavy duty post hole diggers, install the proper hitch pins (16) into the mast (1), and secure the pins to the mast with 3/8'' x 2-1/4'' cap screws (17) and locknuts (18), Figure 1.
2. Attach the mast (1), to the boom (2), using the boom pivot pin (5), 3/8'' x 1'' shoulder bolt (6), and locknut (7). Install 1/4'' straight grease fitting (8), into the boom pivot bushing on the heavy duty model.
3. Attach the gearbox to the boom using the attaching pin and 3/16'' x 1-1/2'' cotter pins, a new cotter pin (10), is provided.
4. For the heavy duty post hole digger, insert the sleeve (20), into the hole in the input shaft before sliding the shaft into the yoke of PTO shaft (3).
5. For the light and medium duty post hole diggers, slide the yoke of PTO shaft (3) onto the input shaft of the gearbox (4), aligning the hole for the socket head setscrew with the groove (2) in the gearbox shaft. Install the socket head setscrew (22) in the yoke: turn it until it bottoms out, then back it out one quarter turn. Grease the yoke and check to be sure the yoke will rotate freely, but will not

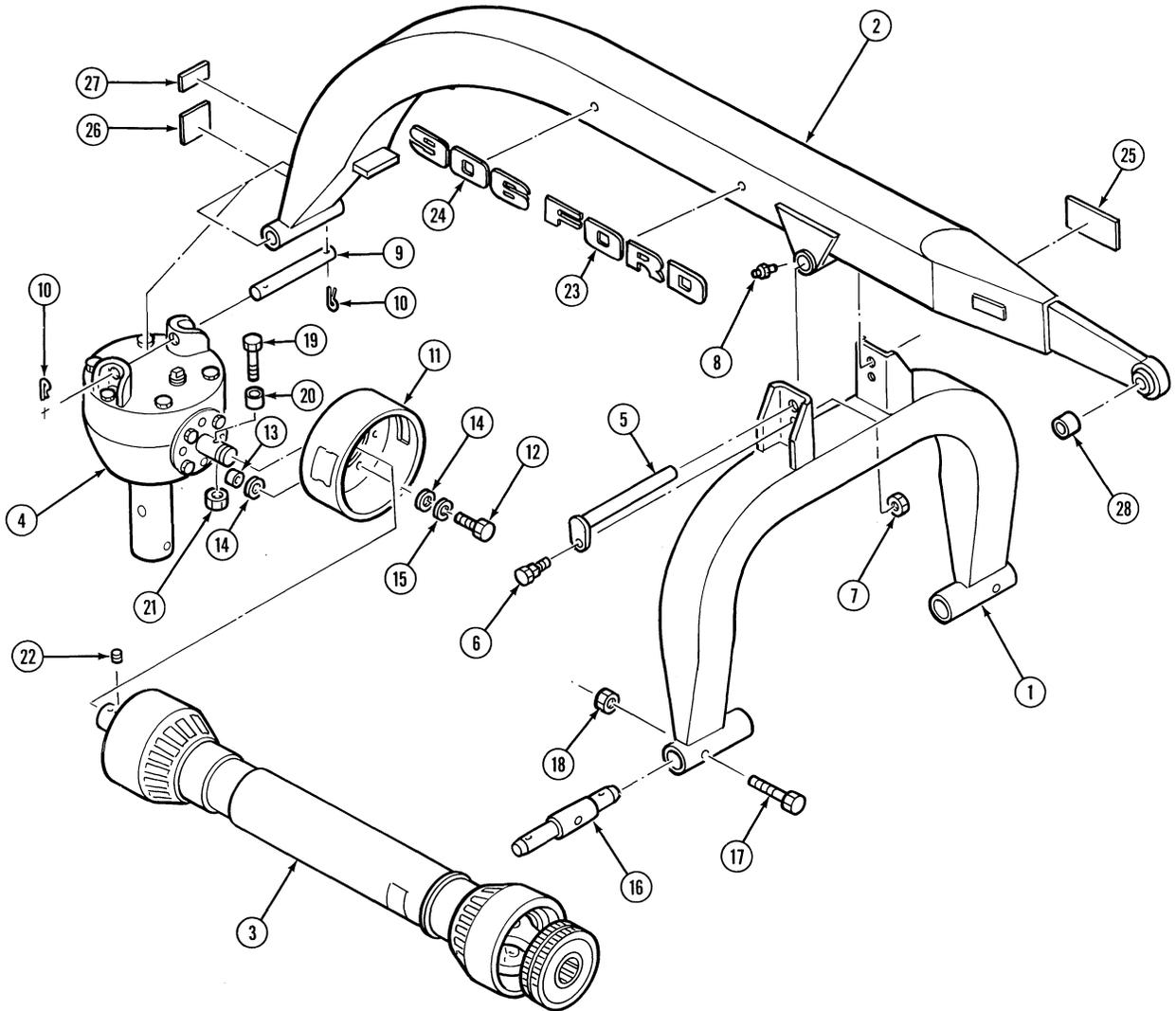


Figure 1
Main Frame

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> 1. Mast 2. Boom 3. Shaft Assembly, PTO 4. Gearbox 5. Pin, Boom Pivot 6. Bolt, Shoulder, 3/8"-16 x 1" 7. Locknut, 3/8"-16 8. Fitting, Grease, 1/4"-28, Straight 9. Pin, Gearbox Pivot 10. Pin, Cotter 3/16" x 2" 11. Shield, Gearbox Shaft 12. Screw, Cap, 3/8"-16 x 1" 13. Spacer, Gearbox Shield 14. Washer, Flat, 3/8" 15. Washer, Lock, 3/8" | <ul style="list-style-type: none"> 16. Pin, Category I & II (Medium & Heavy Duty Only) 17. Screw, Cap, 3/8"-16 x 2-1/4" (Medium & Heavy Duty Only) 18. Nut, Lock, 3/8"-16 (Medium & Heavy Duty Only) 19. Screw, 1/4"-20 x 2-1/2", Grade 5 (Light Duty Only) 20. Sleeve, Spacer, Reducing (Light Duty Only) | <ul style="list-style-type: none"> 21. Nut, Lock, 1/4"-20 (Light Duty Only) 22. Nut, Lock, 3/8"-16 (Medium Duty Only) 23. Decal, Ford 24. Decal, 906 25. Decal, Warning: To Avoid Injury 26. Decal, Warning: Stand Clear of Auger 27. Decal, Important (Light Duty Only) |
|---|---|---|

come off. The setscrew must retain the yoke if the shear bolt shears. Align the holes in the yoke with the hole in the gearbox shaft. Install the shear bolt (19) through the yoke and the shaft, and secure with locknut (21).

7. For the heavy duty post hole digger, push the button on the splined yoke of the driveline, then connect the yoke onto the gearbox shaft and release the button.

NOTE: Slip clutch end of driveline must be installed at the gearbox.

8. With the gearbox (4) level, remove the oil level check plug. Add SAE 80W-140 or SAE 90 weight gear oil (9821006 gear oil) as necessary to bring the oil level up to the check plug.

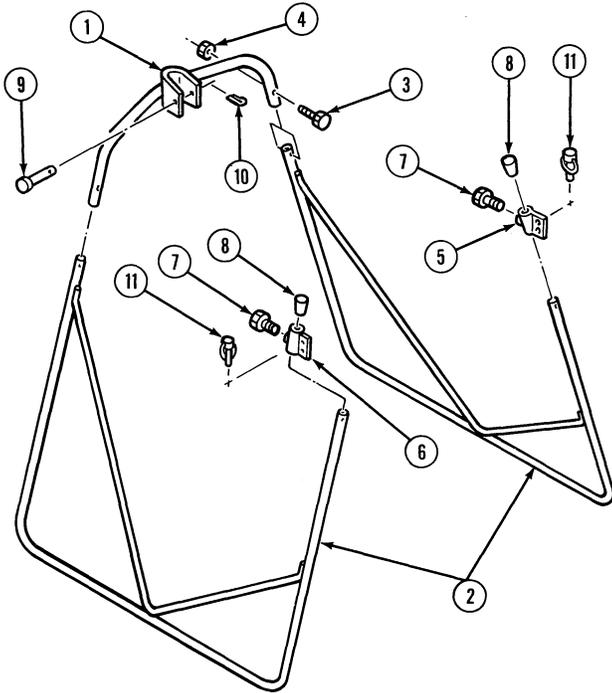


Figure 2
Parking Stand

- | | |
|--|-----------------------------------|
| 1. Bracket, Clevis Tube | 7. Screw, Cap, 3/8"-16 x 7/8" |
| 2. Bracket, Frame Tube | 8. Cap, Plastic |
| 3. Screw, Cap, 5/16"-18 x 1-1/2" | 9. Pin, Upper Link Point Clevis |
| 4. Nut, Lock, 5/16"-18 | 10. Hairpin |
| 5. Bracket, Lower Hitch Point Pin, Left | 11. Pin, Linch, Lower Hitch Point |
| 6. Bracket, Lower Hitch Point Pin, Right | |

PARKING STAND ASSEMBLY

Refer to Figure 2

1. Fasten both of the frame bracket tubes (2) into the clevis tube bracket as shown using 5/16" x 1-1/2" cap screws (3) and locknuts (4).
2. Slide the left and right lower hitch pin brackets (5 & 6) onto the free ends of the frame brackets (2) and secure with 3/8" x 7/8" cap screws (7). Place the plastic caps (8) onto the ends of the frame tubes (2).
3. Place the top link point clevis pin (9) into the collar of the clevis tube bracket (1) and secure with hairpin (10).
4. Store the lower hitch point linch pin (11) for reuse when the post hole digger is placed on the parking stand.

AUGER ASSEMBLY

Refer to Figure 3

Disengage the tractor PTO, set the tractor brakes and shut off the tractor engine during installation onto a mounted post hole digger.

1. Lift the auger safety shield (2) to slip o-ring (3) out of the groove and onto the shaft of the auger. Rotate the auger safety shield as necessary to allow it to slide onto the auger shaft.
2. Slide the auger over the gearbox output shaft or auger extension shaft and secure using the hardware provided.

NOTE: Flat washers must be under head of cap screws for proper shield clearance.

3. Lift the auger safety shield (2) toward the gearbox and slip the o-ring (3) back into the groove in the auger ring. Slide the auger safety shield (2) down so it is firmly seated over the o-ring.

AUGER EXTENSION ASSEMBLY (Optional)

Refer to Figure 3

Disengage the tractor PTO, set the tractor brakes and shut off the tractor engine during installation.

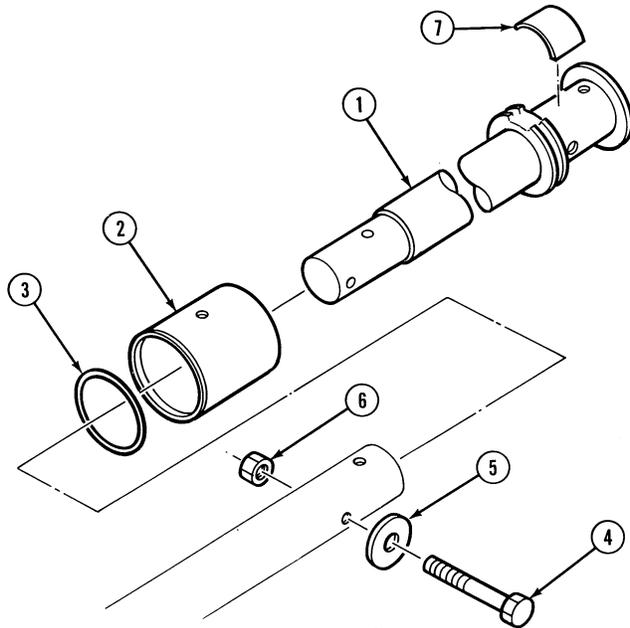


Figure 3
Auger Extension

- | | |
|--------------------------------------|----------------------------------|
| 1. Extension, Auger, 9" | 5. Washer, Flat, 1/2" (Qty.-2) |
| Extension, Auger, 14" | 6. Locknut, 1/2"-13 (Qty.-2) |
| 2. Shield, Auger Attachment Safety | 7. Decal, Danger: Shield Missing |
| 3. O-Ring, Shield Seal | 8. Auger |
| 4. Screw, Cap, 1/2"-13 x 3" (Qty.-2) | |

1. If the auger has already been attached to the post hole digger, lift the auger safety shield to slip the o-ring out of the groove and onto the auger shaft.

Slide the auger safety shield onto the auger shaft. Remove the 1/2" x 3" Grade 5 cap screws, flat washers, and locknuts, then slide the auger off the gearbox output shaft.

2. Lift the auger extension safety shield (2) to slip o-ring (3) out of the groove and onto the shaft of the auger extension (1). Rotate the shield (2) as necessary to allow it to slide onto the auger extension shaft so the attaching hardware (4, 5 & 6) can be accessed.
3. Remove the 1/2" x 3" Grade 5 cap screws (4), flat washers (5), and locknuts (6), then slide the auger extension over the gearbox output shaft and secure using the same hardware.

NOTE: Flat washers must be under head of cap screws for proper shield clearance.

4. Lift the auger extension safety shield (2) toward the gearbox and slip o-ring (3) back into the groove in the auger ring. Slide the auger extension safety shield (2) down so it is firmly seated over the o-ring.
5. Follow the instructions listed in the "Auger Assembly" section to connect the auger to auger extension.

HANDLE KIT ASSEMBLY

Refer to Figure 4

The handle can be mounted on the left or right side of the gearbox for operator convenience. Disengage the tractor PTO, set the tractor brakes and shut off the tractor engine during installation.

1. Fasten the handle bracket (2) to the handle shaft (1) using 7/16" x 1-3/4" cap screw (4), lock washer (5), and nut (6). Push the plastic handle grip (3) onto the end of the handle shaft (1).

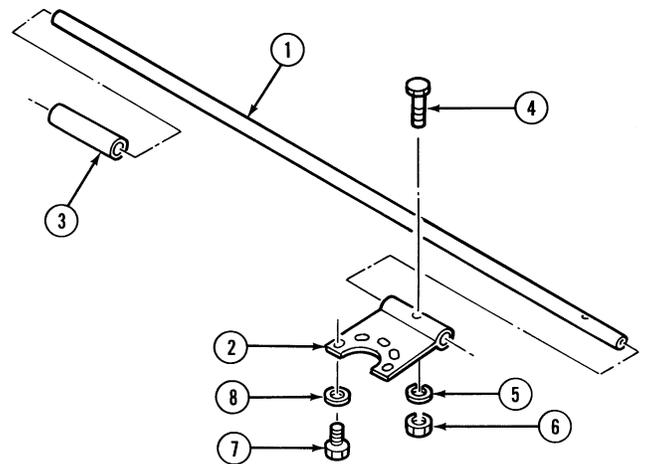


Figure 4
Handle

- | | |
|-------------------------------|--|
| 1. Shaft, Handle | 6. Nut, Hex, 7/16"-14 |
| 2. Bracket, Handle | 7. Screw, Button Head Cap, 3/8"-16 x 1" (Qty.-3) |
| 3. Grip, Handle-Plastic | 8. Washer, Flat, 3/8" (Qty.-3) |
| 4. Screw, Cap, 7/16" x 1-3/4" | |
| 5. Washer, Lock, 7/16" | |

2. Fasten the assembled handle to the bolt circle on the underside of the gearbox using 3/8" x 1" button head cap screws (7) and flat washers (8).

NOTE: The handle bracket is common for all models. Use the set of holes that best match the mounting hole configuration on the gearbox.

HYDRAULIC DOWN PRESSURE ASSEMBLY

Refer to Figure 5

1. Support the post hole digger boom and gearbox. Remove the 3/8" x 1" shoulder, bolt and locknut to remove the boom pivot pin. Place the lever arm plates (2) between the boom and attaching tab on each side of the mast, orienting them as shown. Reinstall the boom pivot pin, 3/8" x 1" shoulder bolt and locknut to secure the lever arm plates and boom to the mast.

2. Use the clevis pin and hairpins supplied in the rod clevis of the cylinder (1) to fasten the rod end to the rib on top of the post hole digger boom.

3. Remove the clevis pin and hairpins supplied in the base end of the cylinder and place one tubular spacer (3) into the base end clevis. Placing one spacer sleeve (4) to each side of the cylinder clevis, fasten the lever arm plates (2) to spacers (3), using the 3/4" x 7" cap screw (5) and locknut (6).

4. Place the remaining tubular spacer (3) between the lever arm plates (2) beneath the boom and fasten using 3/4" x 7" cap screw (5) and locknut (6).

5. Install the grease fittings (7) into the tapped holes in the lever arm plates and apply grease.

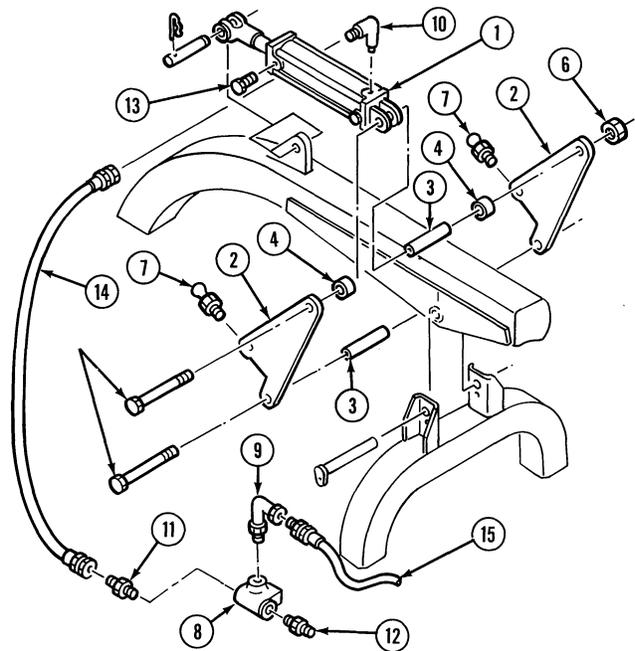


Figure 5

Hydraulic Down Pressure (Optional)

- | | |
|---|---|
| 1. Cylinder, Agricultural, 2" Bore, 8" Stroke | 9. Fitting, Elbow, 7/8" SAE x 3/8" NPT x 90° |
| 2. Plate, Down Pressure | 10. Fitting, Elbow, 9/16" JIC x 3/8" NPSM x 90° |
| 3. Spacer, Tubular, Down Pressure | 11. Fitting, Straight, 7/8" SAE x 9/16" JIC |
| 4. Sleeve, Cylinder Spacer | 12. Fitting, Straight, 7/8" SAE x 1/2" NPTF |
| 5. Screw, Cap, 3/4"-10 x 7" | 13. Plug, Vent, 3/8" NPT |
| 6. Locknut, 3/4"-10 | 14. Hose, 9/16" x 60 |
| 7. Fitting, Grease, 1/4"-28, Straight | 15. Hose, 3/8" x 24 |
| 8. Valve, Relief, 1750 psi | |

HYDRAULIC DOWN PRESSURE PLUMBING

Refer to Figure 5

1. Remove the shipping plugs from both ports of the cylinder (1). Install the 3/8" vent plug (13) into the rod end port and install the 3/8" x 9/16" x 90° elbow fitting (10) into the base end port.

2. Install the 7/8" x 3/8" x 90° elbow fitting (9) into the top port of relief valve (8). Install the 7/8" x 1/2" straight fitting (12) and 7/8" x 9/16" straight fitting (11) into the front and rear ports, respectively, of the relief valve (8).

3. Connect the 3/8" x 60 hose (14) to the 3/8" x 9/16" x 90° elbow fitting (10) in the base port of the cylinder (1) and to the 7/8" x 9/16" x 90° fitting (11) in the rear port of the relief valve (8).

4. Connect either end of the 3/8" x 24 hose (15) to the 7/8" x 3/8" x 90° elbow fitting (9) in the top port of the relief valve. Install the male quick coupler fitting (not supplied with kit) onto the 7/8" x 1/2" straight fitting (12) in the front port of the relief valve.

**DOWN PRESSURE CYLINDER KIT CONNECTION
(Optional-Heavy Duty Post Hole Digger Only)**

The following instructions are divided into three groups for 3-cylinder, 4-cylinder and 6-cylinder Ford tractors.

Additionally the method of returning the hydraulic oil from the relief valve will differ depending on tractor model and design lever.

Three and four cylinder tractors with a plug in the center housing as shown in Figure 6. Use a sleeve, part number E0NN-C911-AA and gasket, C5NN-7N009-A. This will convert the opening to a 7/8"-14 o-ring thread. An adaptor can be procured locally to attach the relief valve return to sump hose.

Three, four and six cylinder tractors with a stand pipe and a plug is shown in Figure 7. The plug on the stand pipe is a G 3/4" (3/4 B.S.P.). Procure locally an adapter to attach the relief valve return to sump hose.

Older model four cylinder tractors have a plug and breather assembly in the lift cover that can be modified to accept a 1/2" NPT. After modification, relocate the breather. The sleeve, E0NN-C911-AA, can be used on these models. However, the adaptor must be modified to accept the breather.

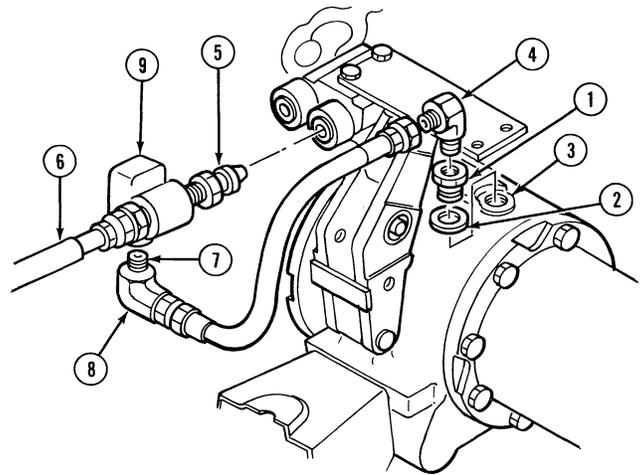
Six cylinder tractors may be equipped with a stand pipe or plug. The tapped hole in the lift cover is 1-1/4" NPTF. Procure locally fittings required to attach relief valve return to sump hose.

NOTE: *The fittings for the tractor dump port are not supplied with the post hole digger down pressure hydraulic kit.*

3-Cylinder Tractors

Refer to Figure 6

1. Remove one of the two fill plugs, located at either side of the tractor center housing to provide a dump port for the relief valve.
2. Install the sleeve (1) part number E0NN-C911-AA, and gasket (2) part number C5NN-7N009-A, into the center housing port (3).



**Figure 6
3 Cylinder Tractor**

- | | |
|----------------------------|----------------------------------|
| 1. Sleeve -
E0NNC911-AA | 5. Male Quick
Disconnect |
| 2. Gasket -
CSNN7N009-A | 6. Line to Hydraulic
Cylinder |
| 3. Port | 7. Tank Port |
| 4. 90° Elbow* | 8. 90° Elbow* |
| | 9. Relief Valve |

* Procure Locally

3. Install the 90° elbow (4) into the sleeve.
4. Attach the hose from the post hole digger relief valve tank port into the 90° elbow.
5. Install the male quick disconnect (5) on the relief valve (9) and into the tractor auxiliary valve port.

4-Cylinder

Refer to Figure 7

1. Remove the plug (1) from the tractor stand pipe to provide a dump port, Figure 7.
2. Install the sleeve into the stand pipe.
3. Attach the hose from the tank port on the relief valve to the sleeve.

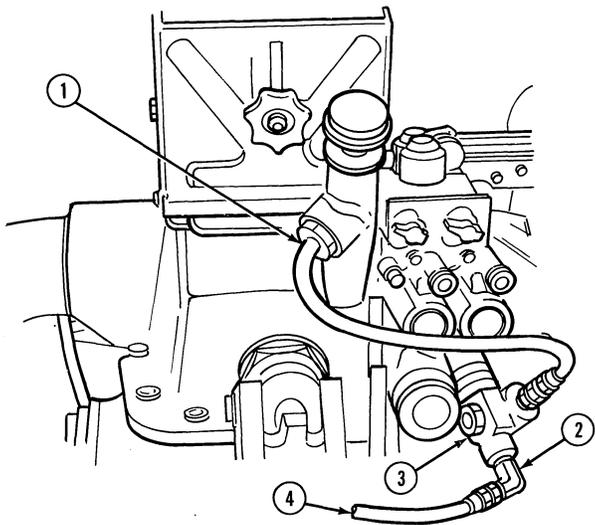


Figure 7

4 Cylinder Tractor

- 1. Port G — 3/4"
- 2. 90° Elbow*
- 3. Relief Valve
- 4. Hose to Hydraulic Cylinder

*Procure Locally

- 4. Install the male quick disconnect on the relief valve into the tractor auxiliary valve port.

6-Cylinder

Refer to Figure 8

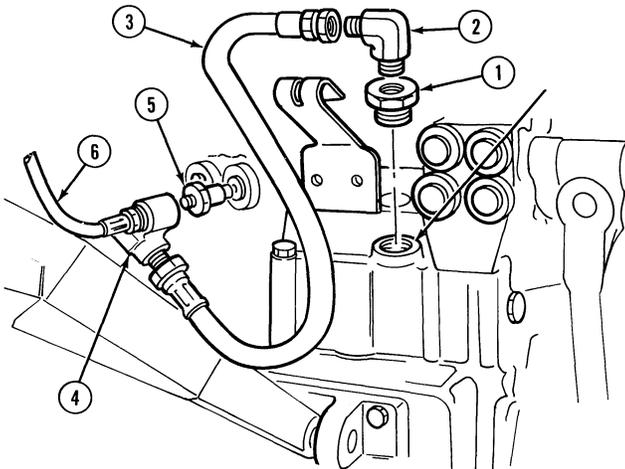


Figure 8

6 Cylinder Tractor

- 1. Bushing*
- 2. 90° Elbow*
- 3. Hose From Dump Port
- 4. Relief Valve
- 5. Male Quick Disconnect
- 6. Hose to Hydraulic Cylinder

- 1. Remove the filler cap and the extension tube from the tractor center housing to provide a dump port.
- 2. Install the reducer bushing (1), into the tractor center housing and 90° elbow (2) into the reducer bushing.
- 3. Attach the hose from the dump port (3) on the relief valve (4) to the 90° elbow.
- 4. Install the male quick disconnect (5) on the relief valve into the tractor auxiliary valve port.

D. ATTACHING THE IMPLEMENT

Attaching the Boom and Mast to Tractor Three-Point Hitch

- 1. Attach the tractor lower links to the post hole digger mast (1), and secure with linch pins (2), Figure 9.

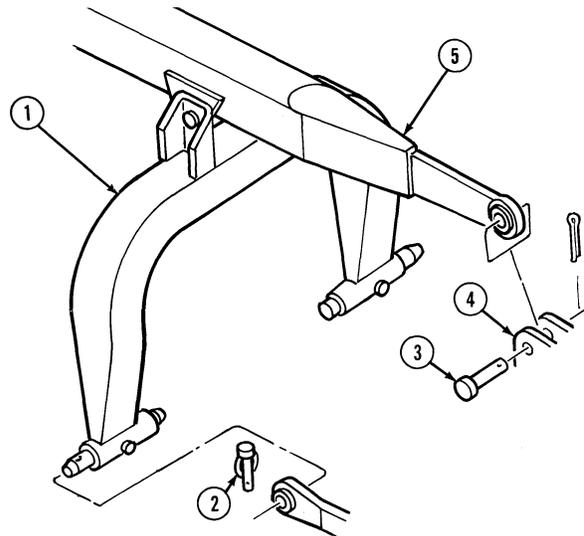


Figure 9
Mast

- 1. Mast
- 2. Linch Pin
- 3. Top Link Pin
- 4. Top Link Point
- 5. Boom

- 2. Remove the tractor three-point hitch top link pin (3). Pin the boom into the tractor top link point (4).

IMPORTANT: To minimize the chance of damage to the tractor three-point connections, and to the post hole digger, choose the highest tractor top link point which will give the auger tip approximately 8" of ground clearance in the transport position, Figure 11. Place the hydraulic system in position control.

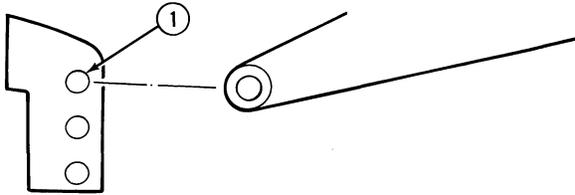


Figure 10
Top Link Point

1. Upper Top Link Hole

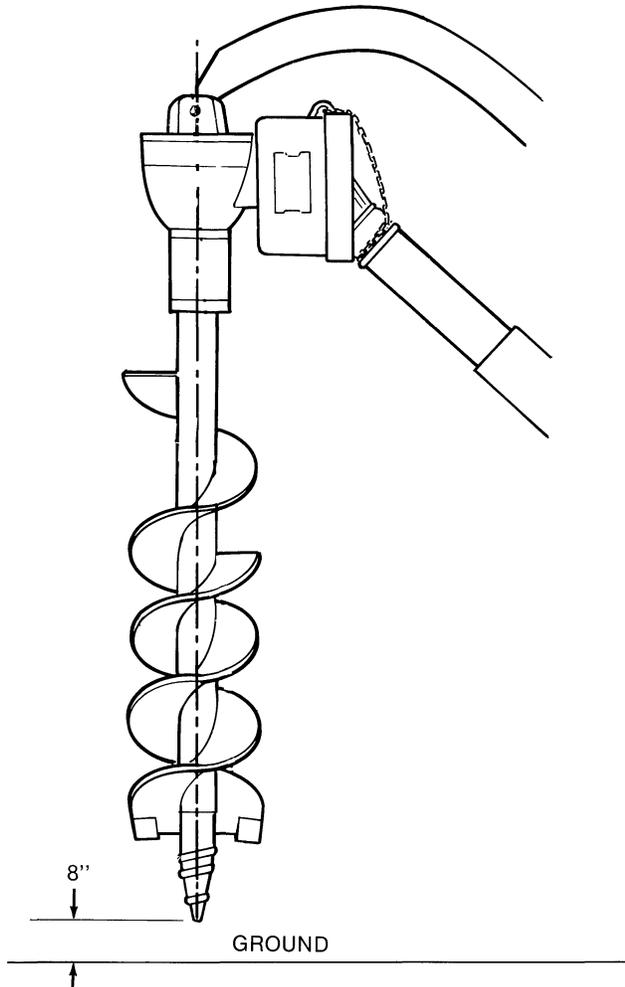


Figure 11
Ground Clearance

3. Install the digger with the boom link in the upper most tractor top link hole (1), Figure 10. Using the tractor three-point hitch controls, carefully raise and lower the hitch to check clearances between the digger, three-point links and the tractor.
4. Use the three-point links to raise the auger to the fully raised (transport) position, then check the clearance between the auger tip and the ground. The tip should clear the ground by approximately 8" as shown in Figure 11. If adequate ground clearance can not be attained using this setting, move the digger boom link to the next lower hole for the top link point and check the clearances again. Repeat until a suitable top link point is selected.
5. Connect/adjust the stabilizer bars, sway chains or equivalent.
6. Connect the driveline and determine the proper length as described in Part 0 "Driveline Sizing".
7. Attach the driveline chain and PTO shield as shown in Figure 12.

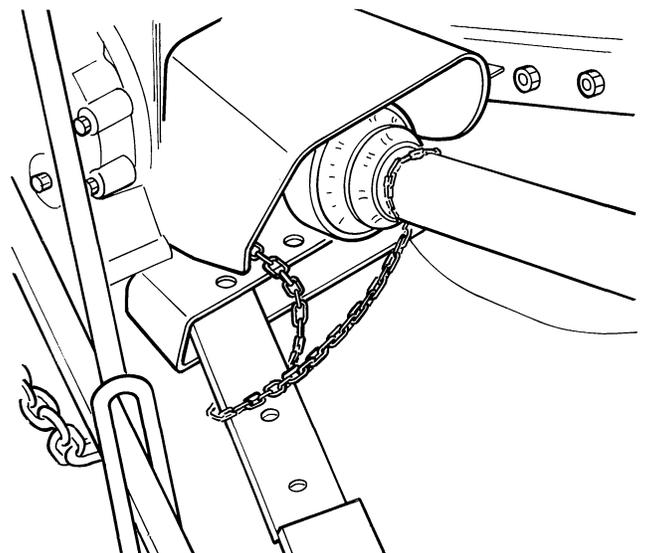


Figure 12
Driveline Chain

E. DETACHING THE IMPLEMENT

DISMOUNTING WITH PARKING STAND

1. Position the post hole digger so the auger is approximately vertical: position can range from vertical to digging position, Figure 13. The auger should not lean away from the tractor.
2. Set the tractor brakes, disengage the tractor PTO and shut off the tractor engine. If the post hole digger is equipped with a hydraulic pressure down kit, move the tractor remote valve lever back and forth several times to relieve the internal hydraulic pressure, then disconnect the hydraulic quick couplers to the relief valve.
3. Remove the clevis pin and cotter pin from the parking stand collar. Place the parking stand behind the post hole digger and move it ahead so the parking stand collar is around the shaft of the auger, then refasten the clevis pin in place with the cotter pin to secure the auger shaft.
4. Disconnect the PTO shaft from the tractor by turning the twist collar and pulling the u-joint yoke.

IMPORTANT: Remove the lower link pins from the tractor and secure to the parking stand one side at a time.

5. Remove the linch pins to remove each pin from each tractor lower link. Install the lower three-point hitch pins into the tabs on the parking stand. Secure the three-point hitch pins to the parking stand tabs using the linch pins.

NOTE: The tabs on the parking stand are adjustable and may be moved to ease insertion of the lower link pins. Once tabs are positioned, tighten the hex head cap screws securely before disconnecting the top link pin from the tractor.

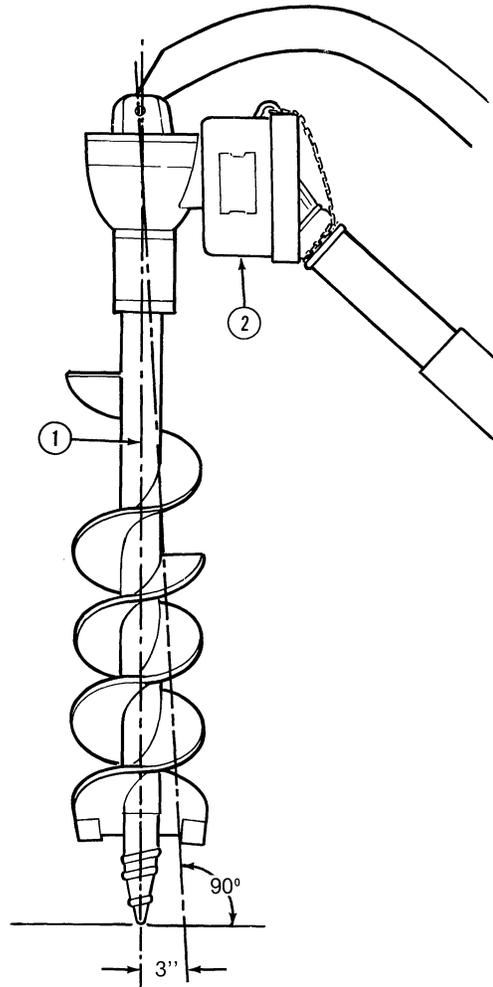


Figure 13
Ground Entry Angle

1. Gearbox Centerline
2. Shield

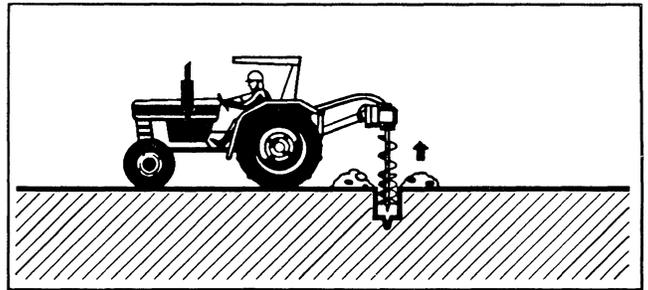
6. Disconnect the boom from the tractor top link by removing the linch pin and the top link pin.

DISMOUNTING WITHOUT PARKING STAND

It is possible to disconnect and reconnect the post hole digger without the parking stand; however, it is recommended that the post hole digger be supported with an overhead hoist or similar support.

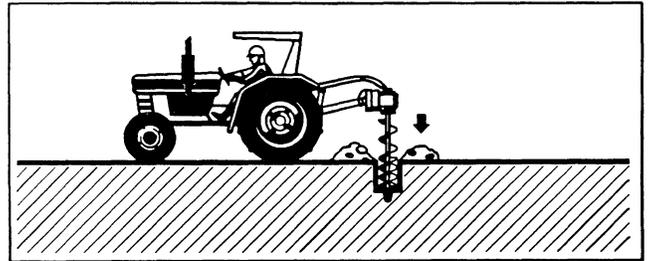
F. OPERATION AND ADJUSTMENTS

Place the auger point at the desired location of the first hole. Drive the tractor forward to create an angle 3" (76 mm) back from the center of the gearbox, as shown in Figure 13. As the auger works into the ground, the slight angle will straighten due to the pivoting action of the boom.



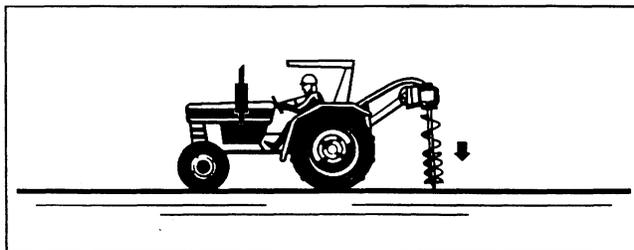
6", 9" and 12" Augers

With the auger point in the correct position and all persons at least 10 ft. (3 m) from the auger, engage the PTO with the engine speed slightly faster than idle. Move the tractor hydraulic control lever slowly to the down position. Allow the auger to dig until there is an indication of overloading. Raise the auger, but do not allow the auger to come completely out of the hole. This allows the auger to clean itself of loose soil. Lower the auger into the hole and continue this procedure until the desired depth is reached.



18" and 24" Augers

With the auger point in the correct position and all persons at least 10 ft. (3 m) from auger, engage the PTO with the engine speed slightly faster than idle. Move the tractor hydraulic control lever slowly to the down position. Allow the auger to dig until there is an indication of overloading. Disengage the PTO and lift the auger up until the point is 6" (153 mm) above the ground. Engage the PTO to throw the loose soil off the auger. Repeat this procedure until the desired depth is reached.



Repeatedly lift the auger out of the hole while digging to prevent the auger from getting stuck.

If, at any time, the auger fails to dig, lift the auger, set the tractor brakes, shut off the tractor engine and disconnect the PTO, then check for the following:

- Grass, roots or clay lodged around the blades.
- Foreign objects such as cans or wire caught on the blades.
- Point or blades loose or excessively worn.
- Tractor lift arms not allowing auger to penetrate full depth with ease.

IMPORTANT: *If an immovable object is encountered, turn off the PTO immediately to prevent damage to the gearbox or driveline. A shear bolt is provided for the light and medium duty models, but the yoke may become welded to the input shaft if the driveline is kept running after the shear bolt has failed. On the heavy duty model, excessive operation of the slip clutch will result in premature failure.*

OPERATING DOWN PRESSURE CYLINDER (HEAVY DUTY OPTION)

If the auger hits hard ground and will not penetrate, activate the cylinder control valve to force the auger into the ground. Once the auger begins digging, return the valve to neutral position.

NOTE: *The three-point lift control should be set to allow the lift arms to travel down when the cylinder is activated. If this is not done, the cylinder will be pushing against the lift arms and the auger will not move down.*

To remove the auger from the hole once the cylinder has been extended, place the control valve in the float position or in the position opposite power down. This allows the cylinder to retract during removal. If the cylinder is already fully retracted, this is not necessary.

DISLODGING THE AUGER

If the auger becomes lodged on an obstruction below the ground or the auger is lodged and will not rotate because the slip clutch operates or if the shear bolt has broken, disengage the PTO drive. Set the tractor brakes and shut off the tractor engine.

Manually rotate the auger in reverse to dislodge it from the obstruction. A chain wrench may be used.

Start the tractor engine and apply lift power at the three-point hitch once the auger is free.

Once the auger has been freed, remove the obstruction before continuing to dig.

G. MAINTENANCE AND REPAIR

Maintenance Check List

Perform scheduled maintenance as outlined below. Lower the implement to the ground, shut off the tractor engine, and set the parking brake before doing any

maintenance, inspections, or work. All bolts should be tightened to the torque specified in Part 0, unless otherwise indicated.

Before Each Use:

1. Inspect the auger to be sure that no foreign objects such as wire or strapping bands are wrapped around it.
2. Verify that the correct shear bolt is installed on the light and medium duty models.
3. Inspect the hydraulic components for wear or leaks. Repair or replace as necessary.
4. Verify that the auger attachment shield is installed.
5. Make certain the driveline shields are in place and in good condition.
6. Check the cutting blades, point and flighting for wear or damage. Repair or replace as necessary.
7. For the heavy duty model, check to see that the slip clutch is free and operates properly. Refer to the "Slip Clutch Operational Check."
8. Lubricate before each use.
9. During operation, listen for abnormal sounds which might indicate loose parts, damaged parts or other damage.

After Each Use:

1. Clean all debris from the machine.

Lubrication

Refer to Figure 14

1. Apply grease to driveline universal joint fittings (1) before each use.
2. Apply 2-3 shots of grease to the plastic fittings (2) on the driveline guard before each use.
3. Driveline Shaft — Disconnect the PTO driveline (3), and pull the two sections apart. Apply a thin coat of grease to the outside of the inner (male) section. Reassemble the sections and reinstall.