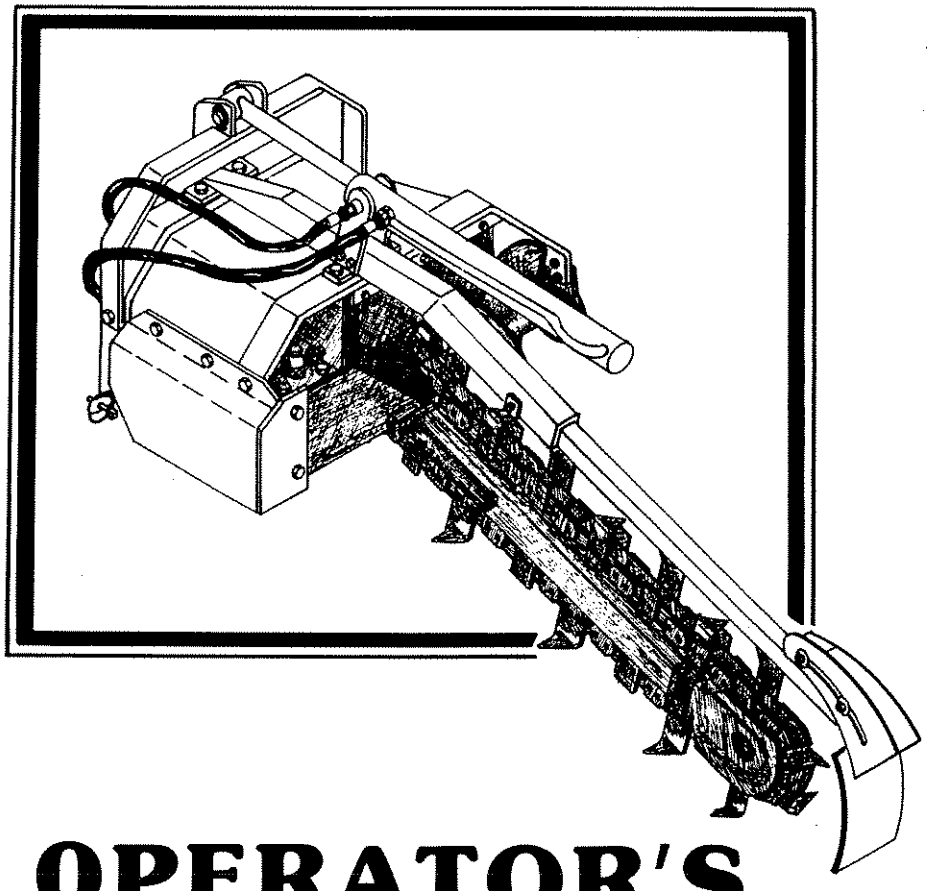
bradco®

605 TRENCHER

ALL TRACTOR APPLICATIONS



OPERATOR'S MANUAL

OM184 4210 9-14-88 75084

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P.O. Box 266 Delhi, Iowa 52223
1-800-922-2981

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TO THE OWNER

GENERAL COMMENTS

Congratulations on the purchase of your new trencher! Your trencher was carefully designed and manufactured to give you many years of dependable service. Your trencher will require some minor maintenance (such as cleaning and lubricating) to keep it in top working condition. Be sure to observe all safety precautions and maintenance procedures as described in this manual.

ABOUT THIS MANUAL

This manual has been designed to help you do a better, safer job. Read this manual carefully and become familiar with it's contents. **Remember, never let anyone operate this trencher without reading the "Safety Precautions" and "Operating Instructions" sections of this manual. (See sections B and G respectively)**

Unless noted otherwise, "right-hand" and "left-hand" sides are determined from the position of the tractor operator sitting in the seat facing forward.

SAFETY ALERT SYMBOL

This is the "Safety Alert Symbol" used by this industry. This symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and for the safety of others working with you.

SERVICE

When servicing your trencher, remember to use only manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering, record the model and serial number of your trencher in the space provided on this page. This information may be obtained from the trencher identification plate located on the left-hand side of the trencher mainframe.

MODEL_____ DATE PURCHASED_____

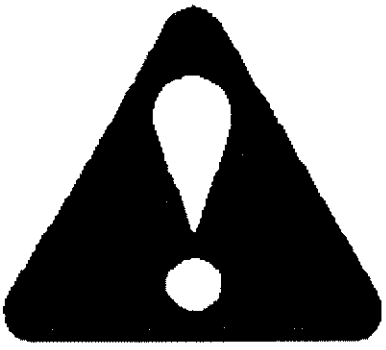
SERIAL NO._____

MOUNTED ON_____

Your parts dealer needs this information to insure that you receive the correct parts for your specific trencher.

SAFETY PRECAUTIONS

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS:

ATTENTION!

BECOME ALERT!

YOUR SAFETY IS INVOLVED!

SIGNAL WORDS: Note the use of signal words DANGER, WARNING, and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

SAFETY PRECAUTIONS

TRENCHERS

GENERAL INFORMATION

This section is composed of various warnings and safety tips. Read and learn all the information in this section before you attempt to use your trencher. Also read your vehicle owner's manual before using your equipment. This knowledge will help you operate your unit safely. Do not take this information lightly, it is presented for your own benefit and for the benefit of others working around you.

The "Safety Alert Symbol" (as described in Section A "To The Owner") will be used throughout this manual. It will appear with either the word DANGER, WARNING, or CAUTION above it, and a safety message pertaining to the specific topic being covered. Take the time to read these messages as you come across them.

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TO THE OPERATOR

The primary responsibility for safety with the equipment falls to the operator. It is the skill, care, common sense, and good judgement of the operator that will determine how efficiently and safely the job is preformed. Know your equipment before you start. Know it's capabilities, dimensions, and how to operate all the controls. Visually inspect your equipment before you start and never operate equipment that is not in proper working order with all safety devices in tack.

BEFORE YOU START

1. Wear the right clothing and gear for the job. Protective equipment such as a hard hat, steel toed shoes, leather gloves, or safety glasses may be in order. They can protect you from needless injury.

2. Do not wear loose clothing, or things such as rings and watches around the equipment. They could get caught in moving parts, and lead to serious injury or death.

3. Know your equipment inside and out. Know how to operate all controls, and know emergency shut down procedures. Make sure all safety devices are in place and working.

4. Keep all step plates, grab bars, pedals, and controls free of dirt, grease, and oil. Keep equipment clean to help avoid injury from a fall when getting on or off equipment.

SAFETY PRECAUTIONS

TRENCHERS

5. Do not use the trencher or crumber bar/personal restraint bar as a step, or grab the digging chain when climbing on or off the trencher. Damage to the equipment or personal injury could result.

6. Know your work area before you begin. Observe any potential hazard areas such as soft ground, drop-offs, rocks and other obsticles.

7. Know where all utility lines are. Observe overhead electrical and phone lines. Be sure equipment will safely clear them. Know the location of underground cables, wires, gas and water lines, tanks, etc. Contact with electrical lines could cause electrocution. Hitting a gas line or underground tank could cause an explosion.

8. Be alert to others in the work area. Be sure others know when and where you will be working. Make sure no one is underneath or behind equipment.

9. Never try to board equipment while it's moving.

10. Always use your seatbelt and safety ROPS (Roll-Over-Pro-tective-Structure) that are on the equipment. They could save your life in the event of a mishap.

11. Never take passengers on your equipment. There is no safe place for riders.

12. Test all controls before you start. This includes safety equipment and devices.

DURING TRENCHER OPERATION

1. Be alert to what is going on around you. Watch for others who may not be watching out for themselves.

2. Never operate equipment while under the influence of alcohol, or prescription drugs which could inhibit physical and or mental capacity.

3. Stop the trencher and shut off the engine if anyone approches the equipment while it's in motion. They may not be familiar with the equipment and get in the way of moving parts.

4. Be alert to changes in the work area. Changes in weather and soil conditions could turn a safe work site into a hazardous area.

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5. Keep equipment away from the trench after it has been dug. The weight of the unit could cause a cave in.

6. Never drop a boom with a rapidly moving digging chain on the ground. The force of the trencher may cause the vehicle to move suddenly and unexpectedly. Have the chain moving slowly and lower the boom carefully when starting a new cut.

7. Use caution when digging on a slope. The natural vibration of the trencher will make the unit creep sideways downhill. Try to dig with the trencher in a level position.

8. Never try to make sharp turns while trenching. The trencher boom could become wedged in the trench and damaged.

9. Never attempt to free a stuck chain with the unit running. If the trencher does become jammed, stop the unit and visually inspect the situation.

10. Check the trencher frequently for loose hardware and fittings. The natural vibration of the unit will cause fasteners to loosen during operation.

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TRANSPORTING THE TRENCHER

1. Follow all federal, state and local regulations when transporting the unit on public roads.

2. Use a SMV (Slow Moving Vehicle) sign on the vehicle when transporting. This will help alert others to your presence.

3. Be sure all lights and turn signals are in working order. Use them as required.

4. When parking, park the unit on hard level ground and lower the trencher boom. Block the wheels and set the parking brake. Shut off the engine.

5. Follow factory recommended shut down procedures for equipment.

6. Stop the trencher and vehicle before dismounting.

SAFETY PRECAUTIONS

TRENCHERS

MAINTAINING THE TRENCHER

1. Replace all safety shields and guards when performing maintenance. Do not operate the trencher with protective equipment removed.

2. Lower the trenching boom and shut off the engine before working on the unit. Never perform maintenance on a trencher while it is running.

3. Make sure all operating and residual pressures are relieved before working on a hydraulic system. Shut engine off and operate all the controls to relieve any pressure.

4. Use only manufacturer recommended replacement parts. Other parts may be substandard in fit and quality.

5. Do not set any relief valve higher than recommended by the manufacturer. Relief valves should be checked and adjusted only by a trained service technician. Do not remove or block a relief valve.

6. Observe proper maintenance schedules. Proper maintenance can help prevent a hazardous condition.

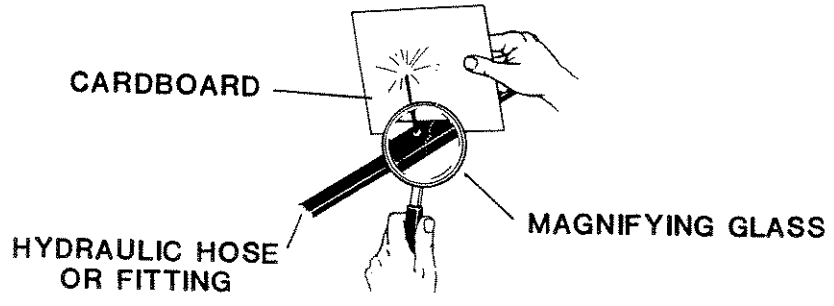
7. Always wear safety goggles or glasses when working on equipment.

WARNING!

Escaping fluid under pressure can have sufficient force to penetrate the skin causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.

Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research it immediately to determine proper treatment.



INTERNATIONAL SYMBOLS

As a guide to the operation of your equipment, various international symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.


Engine speed


Hours recorded


Engine water temperature


Lights


Horn


Engine oil pressure


Hazard warning


Axle connect


Axle disconnect


Continuously variable


Increase

Decrease

Diesel fuel

Creeper range

High range

Low range


Alternator charge


Power take-off (on)


Power take-off (off)


"Tortoise," slow or minimum setting


"Hare," fast or maximum setting


Caution


Control lever operating direction


Rock shaft (raised)


Rock shaft (lowered)


Remote cylinder (extended)


Remote cylinder (retracted)

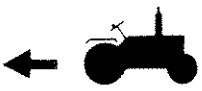

Remote cylinder (FLOAT)


Differential lock


Read operators manual

Neutral


Forward


Reverse

PREOPERATION

605 TRENCHER

GENERAL INFORMATION

The 605 trencher mounts directly to the 3-point hitch system on your tractor the same as any other 3-point hitch attachment. However your tractor will require a trencher hydraulic kit to adapt it's hydraulic system for trencher use. A diagram of the trencher hydraulic kit for your tractor is shown in Section E. Use this diagram to install the kit on the tractor before you attempt to install the trencher itself.

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PREPARING THE TRACTOR

605 trenchers are used with tractors having hydrostatic transmission, category 1, 3-point hitch. Remote hydraulics between 4 and 7 GMP flow and a minimum working pressure of 1800/2250 PSI 540 RPM rear PTO drive are also required.

A front counterweight (such as a loader or dozer blade) may be necessary for proper transportation and operation of the tractor and trencher. A minimum of 20% of the gross vehicle weight must be on the tractor's front axle.

OPTIONS

Eventually you may wish to dig a trench of a depth or width other than what your unit was originally equipped to dig. The 605 trencher can be fitted with optional booms, digging chains, sprockets, and crumber assemblies to allow you to dig a variety of different sized trenches. The chart below will give you an idea of the different trench depths and widths a properly equipped unit is capable of digging. For more detailed information on trencher options See Sections I and J of this manual.

TRENCH DEPTHS*	TRENCH WIDTHS		
24" Depth	4 1/4"	6"	8"
30" Depth	4 1/4"	6"	8"
36" Depth	4 1/4"	6"	8"
48" Depth	4 1/4"	6"	8"

*Trench depths are given with the digging boom at an optimum 60° digging angle and the auger touching the ground. Trenches of various depths can be made by varying the digging angle and raising the trencher up higher. These methods are less efficient however.

NOTE: The illustrations and data used in this manual were current (according to the information available to us) at the time of printing, however, we reserve the right to redesign and change the trenchers as may be necessary without notification.

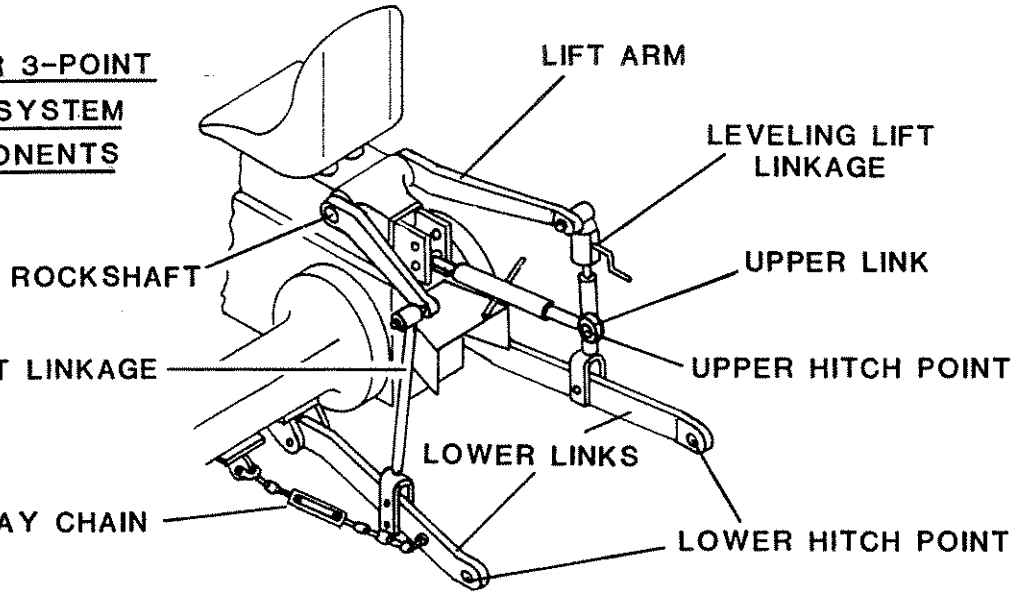
PREOPERATION

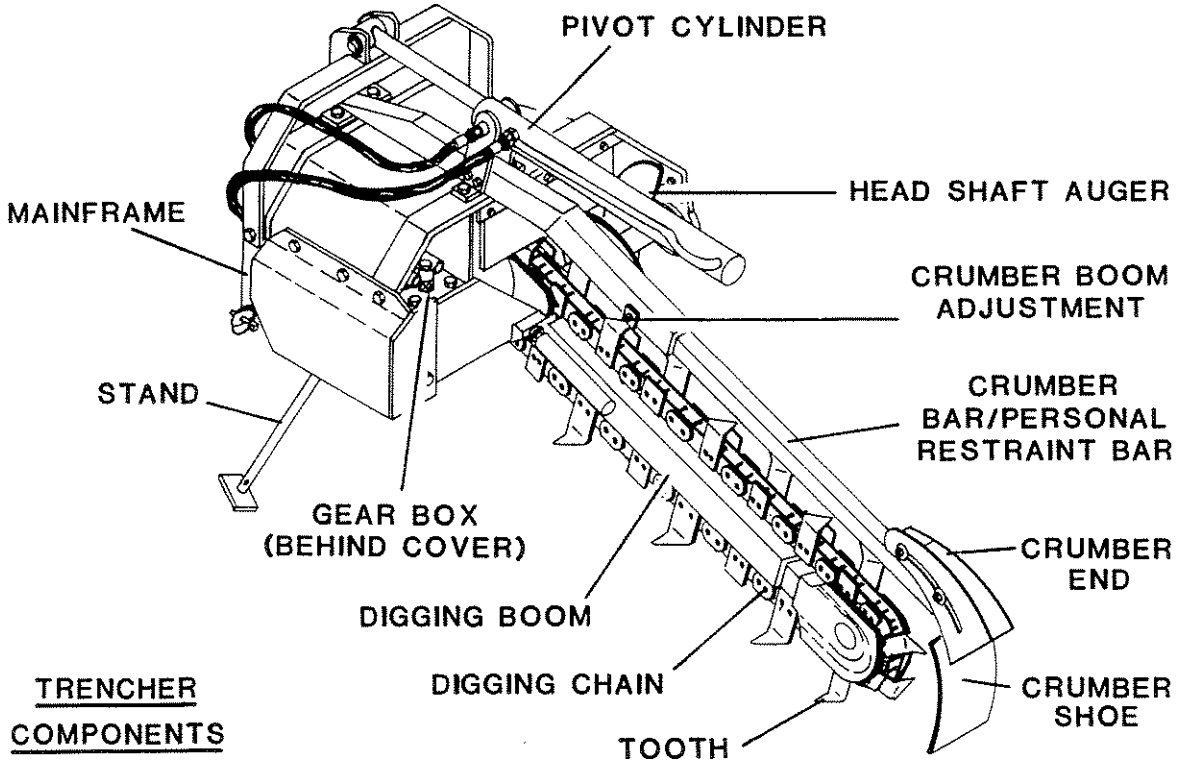
TRENCHER MAJOR COMPONENT NOMENCLATURE
605 TRENCHER

GENERAL INFORMATION

The purpose of this page is to acquaint you with the 3-point hitch system, the trencher, and the names of the various components. This knowledge will be helpful when reading through this manual or when ordering service parts.

TRACTOR 3-POINT HITCH SYSTEM COMPONENTS

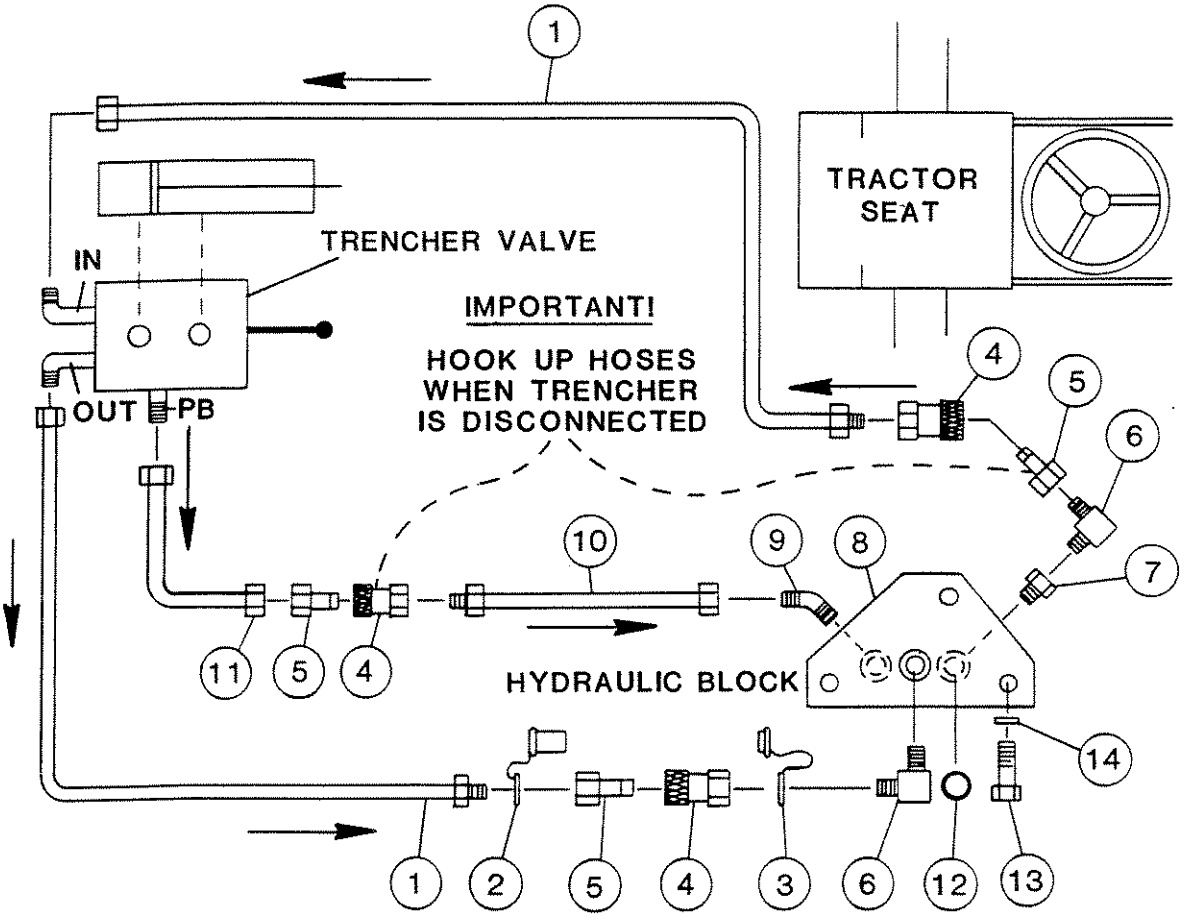


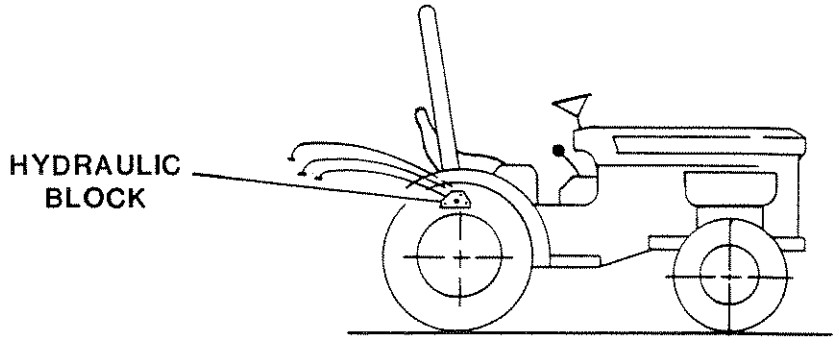


TRENCHER COMPONENTS

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62759
BOLENS 1704





MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62759
BOLENS 1704

NO.	REQ'D	PART NO.	DESCRIPTION
1	2	35218	Hose Assembly .25" X 42" (SAE 100R1-1Wire) 4MP-6FJX-HS
2	3	62187	Dust Plug
3	3	62186	Dust Cap
4	3	61464	.25" Coupler
5	3	61465	.25" Male Tip
6	2	3176	90° Male Elbow .25" NPT
7	1	3089	Bushing .38" - .25"
8	1	62760	Block Hydraulic
9	1	3295	45° Male Elbow .38" MP-6MJ
10	1	35573	Hose Assembly .25" X 23" (SAE 100R1-1Wire) 4MP-6FJX-HS
11	1	35620	Hose Assembly .25" X 15" (SAE 100R1-1Wire) 4MP-6FJX-HS
12	3	4890	O-Ring
13	3	2603	M8 X 50MM DIN 931 (1.25 P) Hex Capscrew
14	3	2531	8MM Lock Washer

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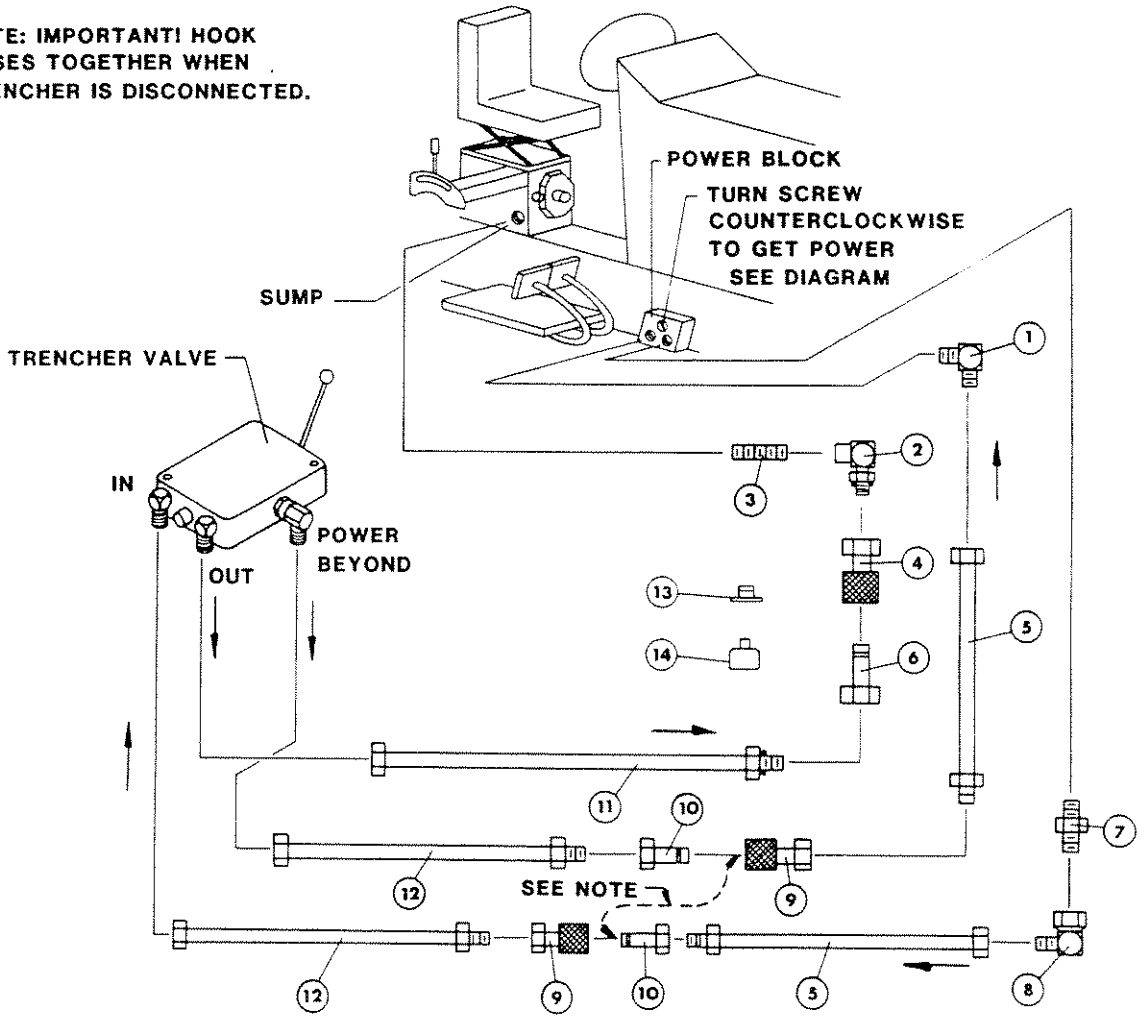
NOTE: Arrows indicate flow direction

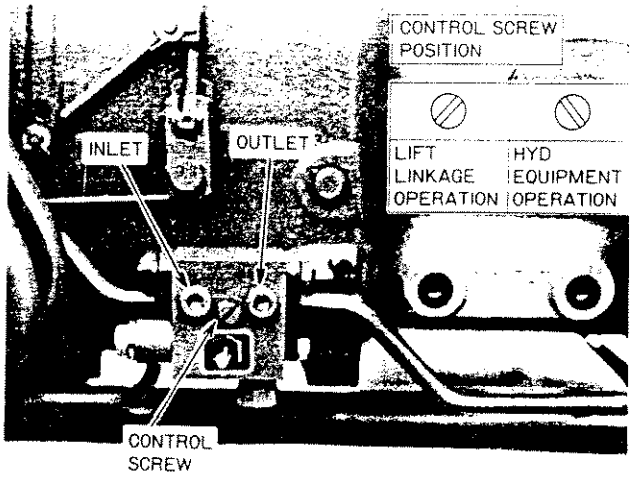
When replacing hoses, always use original equipment parts or equal. Never change to a lower grade hose than specified. Hose lengths are important to hose routing and clearance requirements. Keep hoses away from operating personnel and sharp edges.

E

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #60358
FORD 1210/1910





MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #60358
FORD 1210/1910

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	3002	90° Male Elbow
2	1	3237	90° O-Ring Elbow
3	1	3041	.38" X 2" Nipple
4	1	60936	8 NPT Coupler
5	2	35584	Hose Assembly .38" X 50" (SAE 100R1-1Wire) 6FJX-6MP-HS
6	1	60937	8 NPT Male Tip
7	1	3138	Straight Adapter
8	1	3430	90° Jig Elbow
9	2	60355	6 NPT Coupler
10	2	60356	6 NPT Male Tip
11	1	35583	Hose Assembly .38" X 46" (SAE 100R1-1Wire) 6FJX-8MB-O-Ring-HS
12	2	35563	Hose Assembly .38" X 30" (SAE 100R1-1Wire) 6FJX-6MP-HS
13	1	51754	8 NPT Dust Plug
14	1	51753	8 NPT Dust Cap

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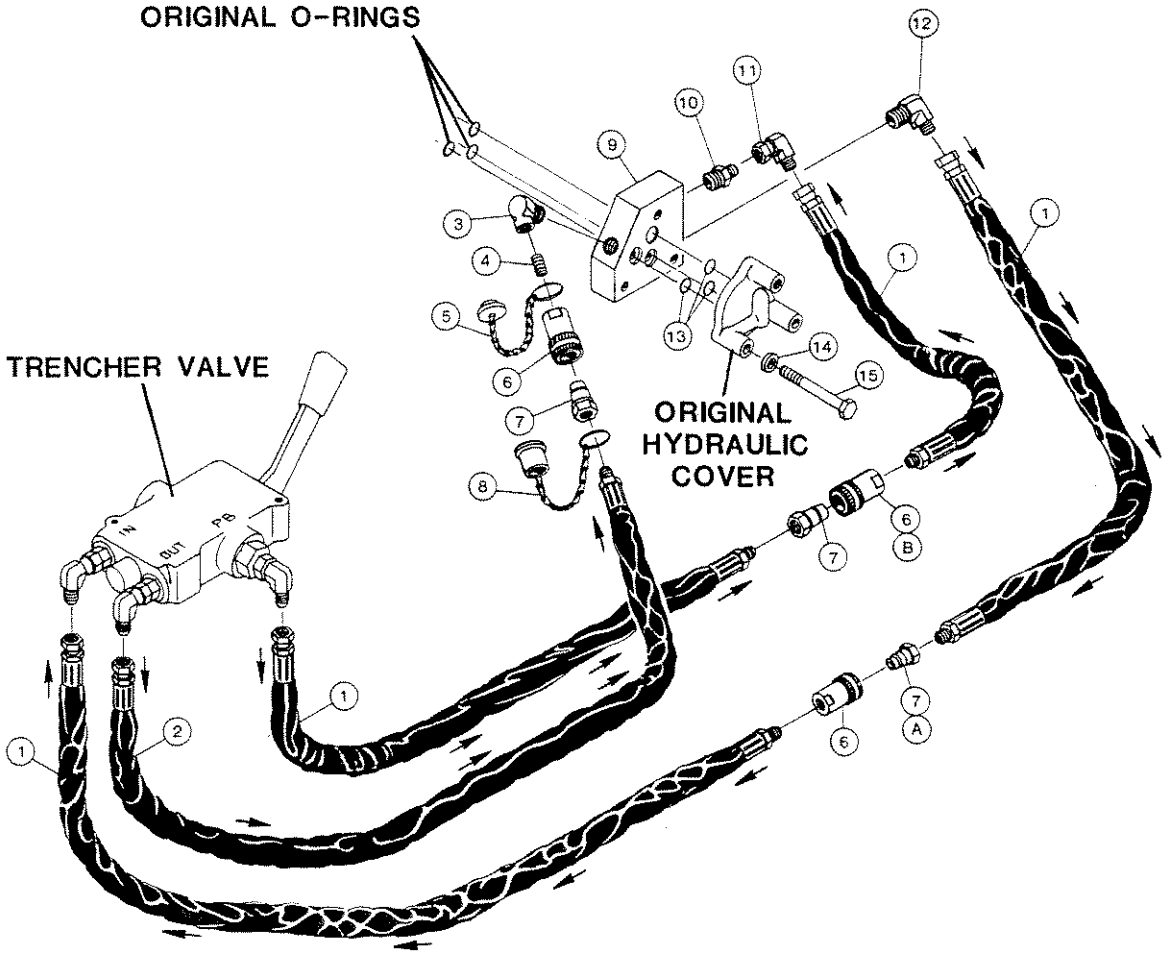
NOTE: Flow Direction Signified By Arrows.

When replacing hoses, always use original equipment parts or equal. Never change to a lower grade hose than specified. Hose lengths are important to hose routing and clearance requirements. Keep hoses away from operating personnel.

If the 3-point hitch is to be operated with the trencher removed, the hydraulic power can be switched on the power block to lift arm operation instead of coupling the power hoses on the tractor together.

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #64626
FORD 1210



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NOTE: Hydraulic manifold bolts onto tractor between differential casting and a hydraulic port cover. This hydraulic port is located on the right hand side of the tractor between the seat and the rear axle.

This hydraulic kit comes complete with quick couplers for easy hook up. When the trencher is removed, be sure to connect male tip "A" to coupler "B" to complete the tractor hydraulic circuit. For the trencher valve hoses, connect the male tip of the "power beyond" port hose to the coupler on the "in" port hose. Install the dust cap and plug on the remaining couplers to keep all systems free of dust and contaminants.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

MOUNTING KIT INSTALLATION

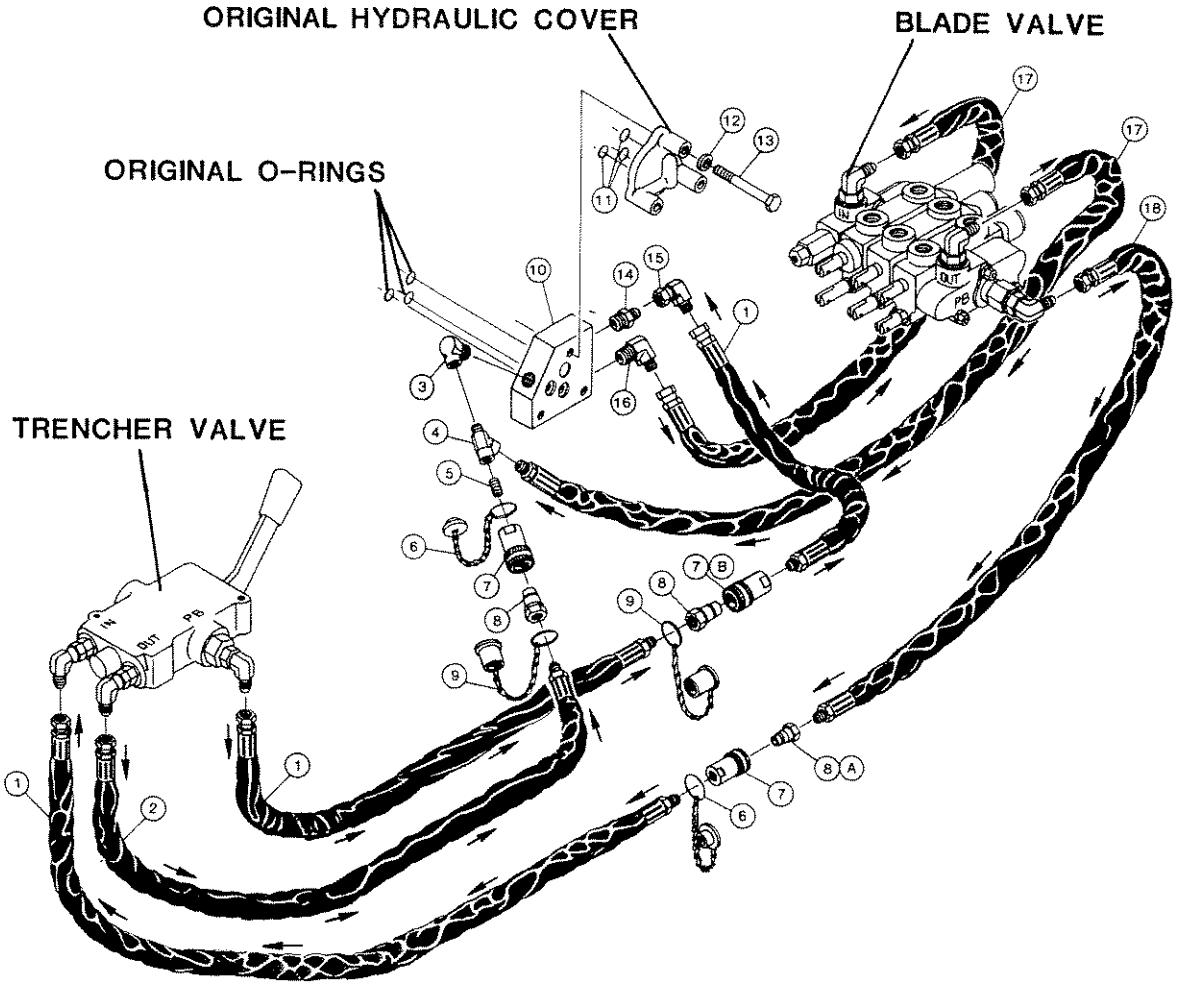
TRENCHER HYDRAULIC KIT #64626
FORD 1210

NO.	REQ'D	PART NO.	DESCRIPTION
1	4	35571	Hose Assembly .25" X 22" (SAE 100R1-1Wire) 6FJX-6MP-HS
2	1	35691	Hose Assembly .25" X 36" (SAE 100R-1Wire) 6FJX-6MP-HS
3	1	3320	90° Street Elbow .38"
4	1	3178	.38" Close Nipple
5	1	61538	.38" Dust Plug
6	3	60355	6NPT Coupler
7	3	60356	6NPT Male Tip
8	1	61537	.38" Dust Cap
9	1	51356	Hydraulic Manifold
10	1	3138	Male Connector
11	1	3430	90° Adapter 6MJ-6FJX
12	1	3002	90° Elbow 6MP-6MJ
13	3	45003	O-Ring
14	3	2531	8mm Lock Washer
15	3	2612	M8 X 80mm DIN 931 Capscrew

E

MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #61582
FORD 1210



NOTE: Hydraulic manifold bolts onto tractor between differential casting and a hydraulic port cover. This hydraulic port is located on the right hand side of the tractor between the seat and the rear axle.

This hydraulic kit comes complete with quick couplers for easy hook up. When the trencher is removed, be sure to connect male tip "A" to coupler "B" to complete the tractor/ blade hydraulic circuit. For the trencher valve hoses, connect the male tip of the "power beyond" port hose to the coupler on the "in" port hose. Install the dust cap and plug on the remaining couplers to keep all systems free of dust and contaminan
ts.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #61582
FORD 1210

NO.	REQ'D	PART NO.	DESCRIPTION
1	3	35571	Hose Assembly .25" X 22" (SAE 100R1-1Wire) 6FJX-6MP-HS
2	1	35691	Hose Assembly .25" X 36" (SAE 100R1-1Wire) 6FJX-6MP-HS
3	1	3320	90 Street Elbow .38"
4	1	3174	Tee 6FNPT-6MNPT-6FNPT
5	1	3178	.38" Close Nipple
6	2	61538	.38" Dust Plug
7	3	60355	6NPT Coupler
8	3	60356	6NPT Male Tip
9	2	61537	.38" Dust Cap
10	1	51356	Hydraulic Manifold
11	3	45003	O-Ring
12	3	2531	8mm Lock Washer
13	3	2612	M8 X 80mm DIN 931 Capscrew
14	1	3138	Male Connector
15	1	3430	90° Adapter 6MT-6FJX
16	1	3002	90° Elbow 6MP-6MJ
17	2	35544	Hose Assembly .25" X 46" (SAE 100R1-1Wire) 6MP-6FJX-HS
18	1	35551	Hose Assembly .25" X 55" (SAE 100R1-1Wire) 6MP-6FJX-HS

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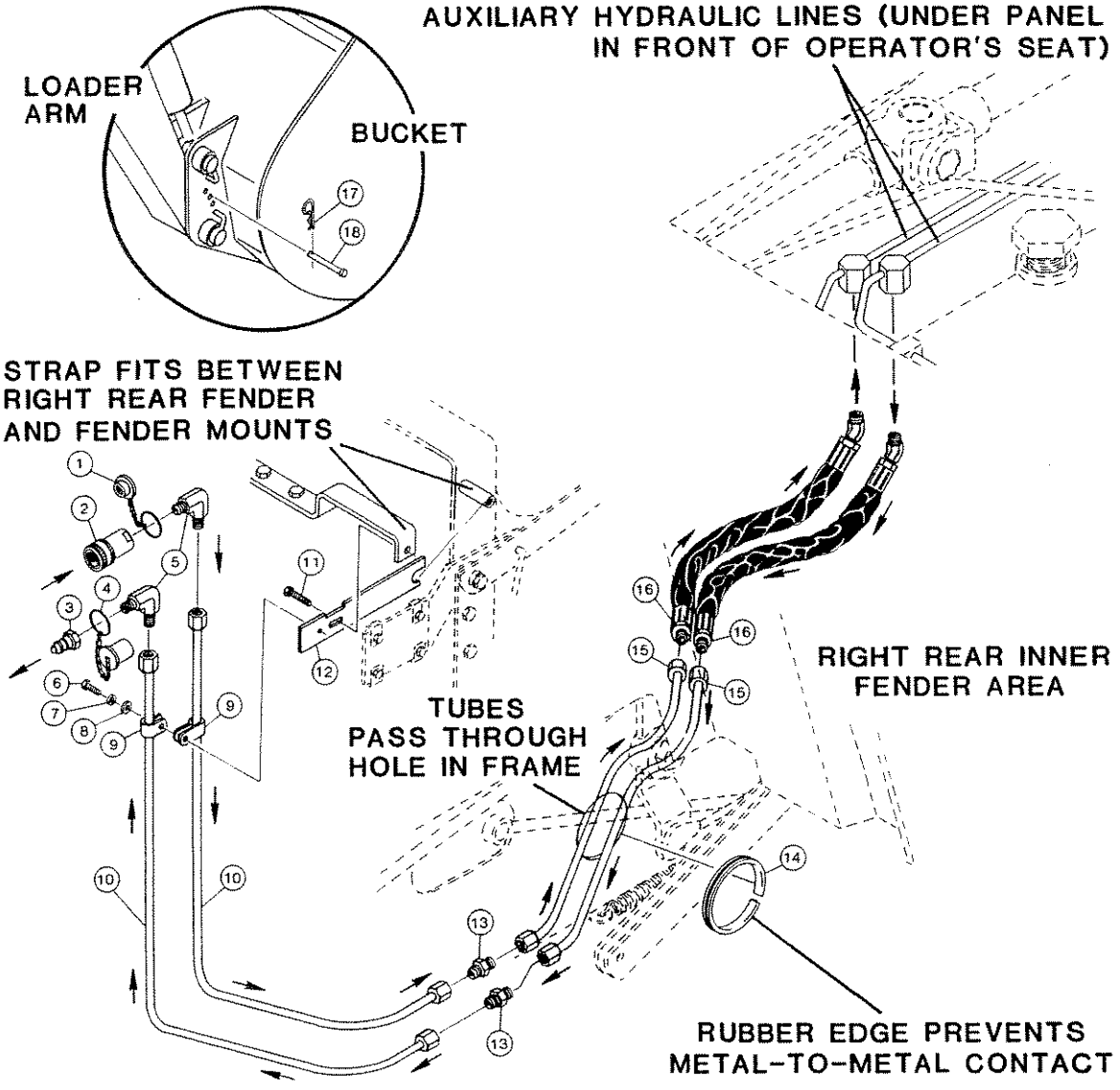
MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #65207
JOHN DEERE 855



NOTE: This hydraulic kit comes with quick connect couplers that connect with the corresponding couplers in the "Hose Hook-UP Kit". Be sure to use the dust cap and plug provided when the trencher is removed to keep contaminants from entering and fouling the couplers.

Pins are provided to lock the front end loader bucket in the curled position. This is necessary to provide proper hydraulic flow to the trencher.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #65207
JOHN DEERE 855

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	61538	.38" Dust Plug
2	1	60355	.38" NPT Female Coupler
3	1	60356	.38" NPT Male Tip
4	1	61537	.38" Dust Cap
5	2	3002	90° Adapter 6MP-6MJ
6	1	1021	.31" UNC X .75" Capscrew
7	1	1502	.31" Lock Washer
8	2	1513	.31" Flat Washer
9	2	66062	.38" Hose Clamp
10	2	65317	Hydraulic Tube
11	1	2602	M8 X 30mm DIN 933 Capscrew
12	1	65381	Mounting Strap
13	2	3352	6MJ Union
14	1	34069	Rubber Edge 10"
15	2	65318	Hydraulic Tube
16	2	35784	Hose Assembly .25" X 16" (SAE 100R1-1Wire) 6MJ-4ORS45°-HS
17	2	1735	Pull Pin
18	2	65534	Clevis Pin

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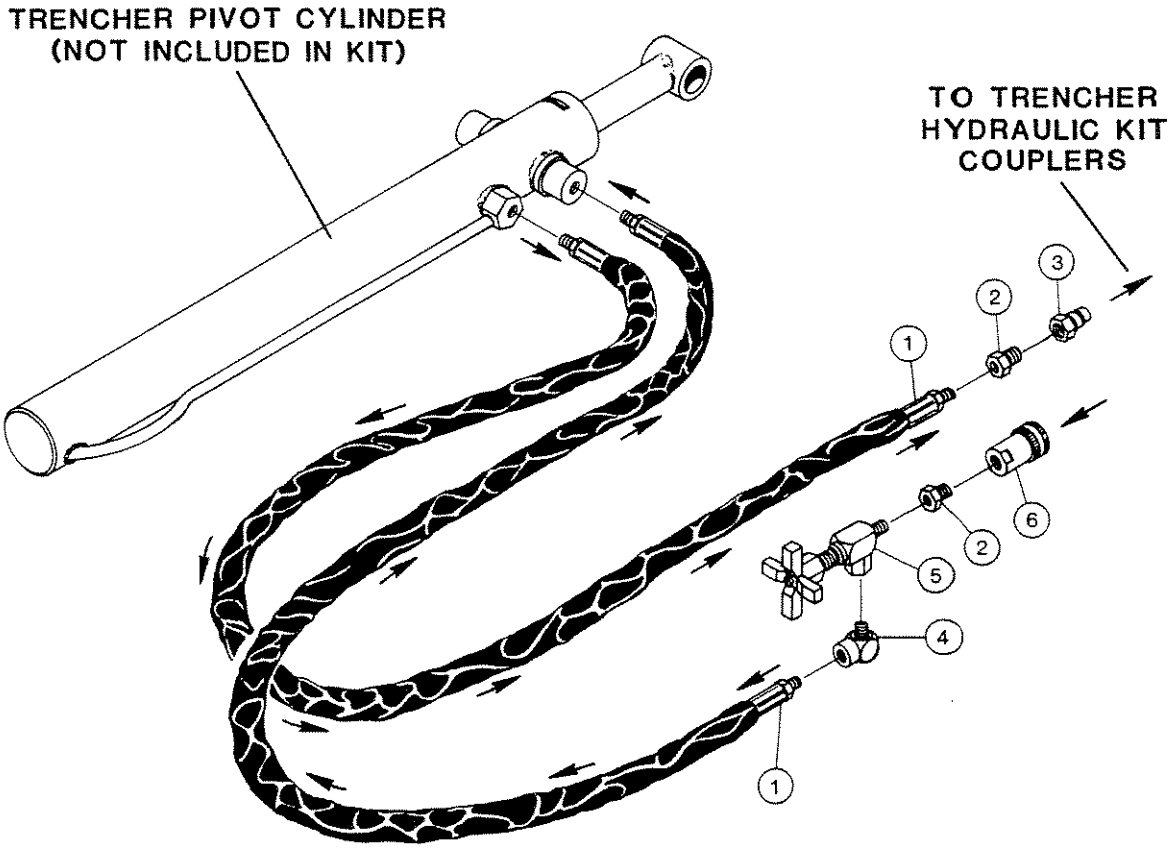
MOUNTING KIT INSTALLATION

TRENCHER HOSE HOOK UP KIT #65585
JOHN DEERE 855



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NOTE: The couplers of the "Hose Hook-Up Kit" connect directly to the corresponding couplers from the trencher hydraulic kit. The other hose ends connect directly into the pivot cylinder. This system uses the tractors auxiliary hydraulic system and controls, and thus does not require a separate trencher valve to operate the pivot cylinder.

A shut off valve is part of this kit. When using your tractor's front end attachments (such as blades or loaders) this valve must be closed. This will hold fluid pressure in the pivot cylinder and keep the trencher from raising and lowering with the front end attachment.

When the trencher is removed from the tractor, connect the couplers together to keep contaminants from entering and fouling the couplers.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

E E

MOUNTING KIT INSTALLATION

TRENCHER HOSE HOOK UP KIT #65585
JOHN DEERE 855

NO.	REQ'D	PART NO.	DESCRIPTION
1	2	35800	Hose Assembly .25" X 62" (SAE 100R2-2Wire) 4MB-4MP-HS
2	2	3089	Bushing .25" NPT-.38" NPT
3	1	60356	.38" NPT Male Tip
4	1	3171	.25" NPT 90° Street Elbow
5	1	3185	Needle Valve
6	1	60355	.38" NPT Female Coupler

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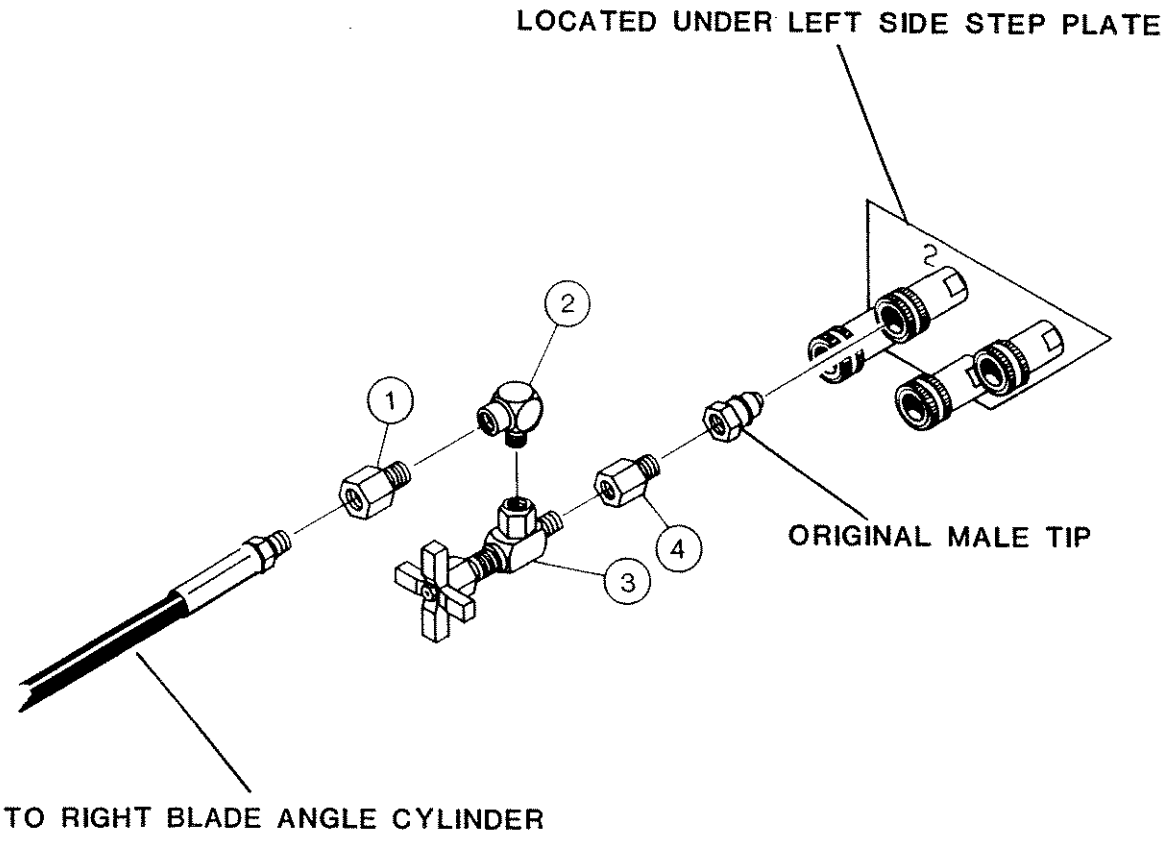
E

MOUNTING KIT INSTALLATION

BLADE ANGLE LOCK KIT #65541
JOHN DEERE 855



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NOTE: The "Blade Angle Lock Kit" is installed between the hose end and male tip of the hydraulic hose, that runs between the right blade angle cylinder and the number "2" female coupler. This coupler is one of the four couplers mounted under the left side step plate.

When the trencher is to be used, this valve is closed to hold pressure in the blade angle cylinders. This keeps them from moving with the raising and lowering of the trencher's digging boom.

E E

MOUNTING KIT INSTALLATION

BLADE ANGLE LOCK KIT #65541
JOHN DEERE 855

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	3462	Adapter
2	1	3171	90° Street Elbow .25" NPT
3	1	3185	Needle Valve
4	1	3461	O-Ring Adapter

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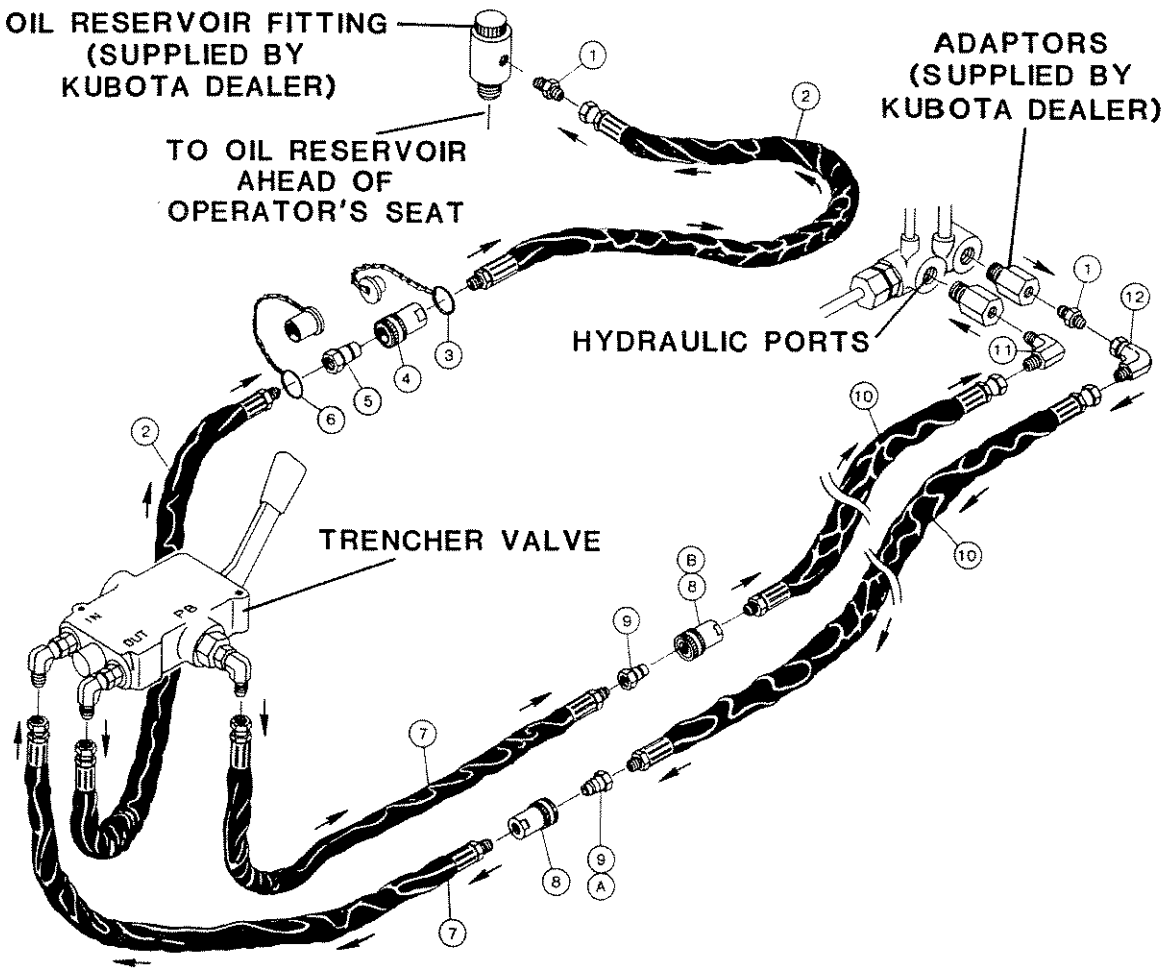
MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62020
KUBOTA B7200HST



NOTE: The hydraulic ports shown in the above diagram are located on the right side of the tractor at the rear of the engine cover. Two adaptors (Kubota part #70050-02192) and two O-rings (Kubota part #70050-02193) are needed to attach the hydraulic fittings to the ports. They are available from your Kubota dealer. The oil reservoir fitting can also be ordered from your Kubota dealer under part #70050-01615 and is installed in the filler port just ahead of the tractor operator's seat.

This hydraulic kit comes complete with quick couplers for easy hook up. When the trencher is removed, be sure to connect male tip "A" to coupler "B" to complete the tractor hydraulic circuit. Install the dust caps and plugs on the remaining couplers to keep all systems free of dust and contaminants.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

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MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62020
KUBOTA B7200HST

NO.	REQ'D	PART NO.	DESCRIPTION
1	2	3138	Straight Adapter
2	2	35586	Hose Assembly .25" X 22" (SAE 100R1-1Wire) 6FJX-4MP-HS
3	1	62187	.25" Dust Plug
4	1	61464	.25" NPT Coupler
5	1	61465	.25" NPT Male Tip
6	1	62186	.25" Dust Cap
7	2	35543	Hose Assembly .25" X 32" (SAE 100R1-1Wire) 6FJX-6MP-HS
8	2	60355	.38" NPT Coupler
9	2	60356	.38" NPT Male Tip
10	2	35544	Hose Asembly .25" X 46" (SAE 100R1-1Wire) 6FJX-6MP-HS
11	1	3002	90° Elbow 6MP-6MJ
12	1	3430	90° Adapter 6MP-6FJX

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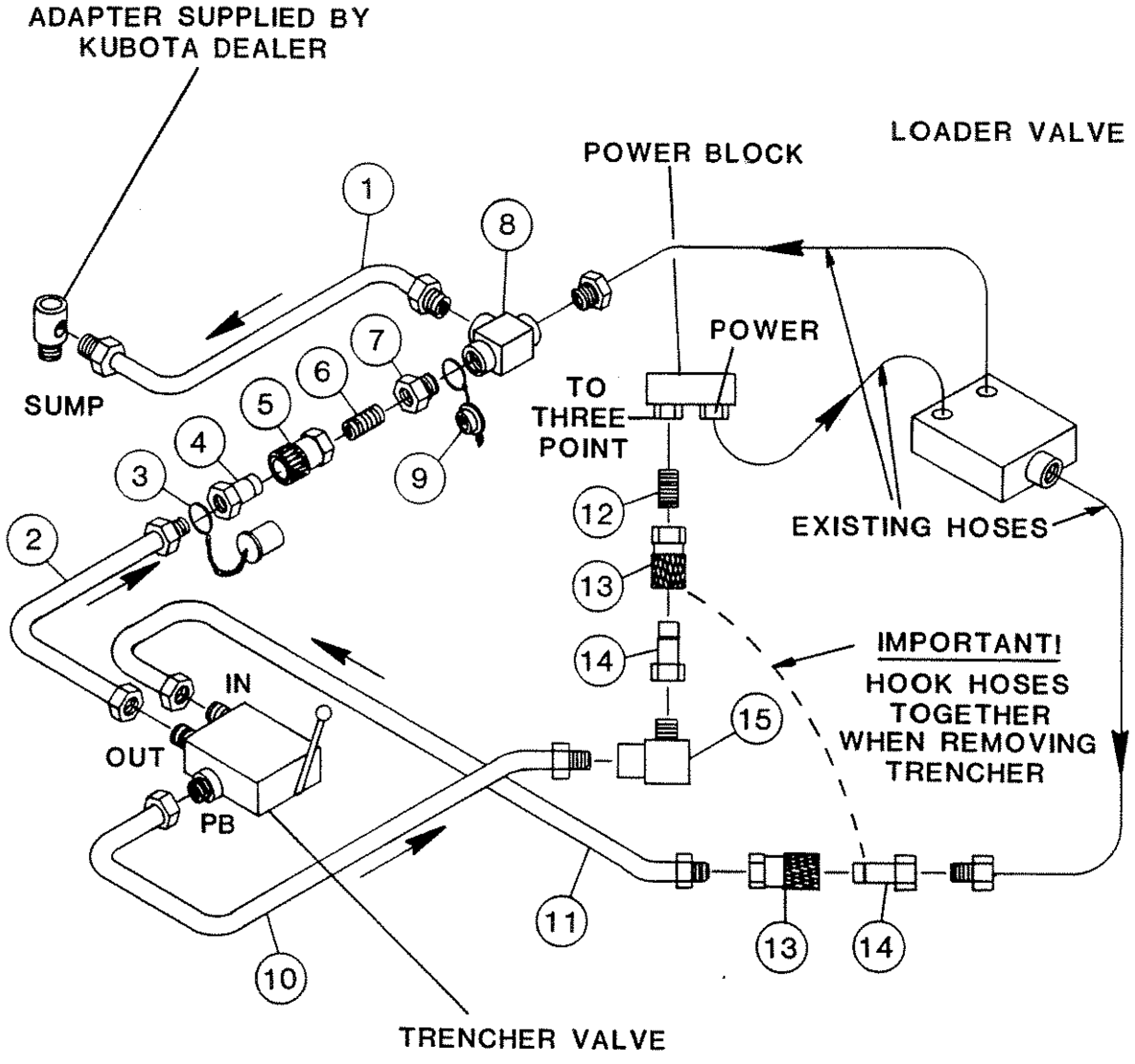
E

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62058
KUBOTA B7200 WITH 1630 LOADER



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MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62058
KUBOTA B7200 WITH 1630 LOADER

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	35857	Hose Assembly .25" X 10" (SAE 100R1-1Wire) 6MP-6MP-HS
2	1	35586	Hose Assembly .25" X 22" (SAE 100R1-1Wire) 6FJX-4MP-HS
3	1	62186	.25" NPT Dust Cap
4	1	61465	.25" NPT Male Tip
5	1	61464	.25" NPT Coupler
6	1	3193	.25" NPT Close Nipple
7	1	3089	.38" To .25" NPT Bushing
8	1	3135	.38" NPT Tee
9	1	62187	.25" NPT Dust Plug
10	1	35533	Hose Assembly .25" X 74" (SAE 100R1-1Wire) 6FJX-6MP-HS
11	1	35431	Hose Assembly .25" X 82" (SAE 100R1-1Wire) 6FJX-6MP-HS
12	1	3178	.38" NPT Close Nipple
13	2	60355	.38" NPT Coupler
14	2	60356	.38" NPT Male Tip
15	1	3320	.38" NPT 90° Street Elbow

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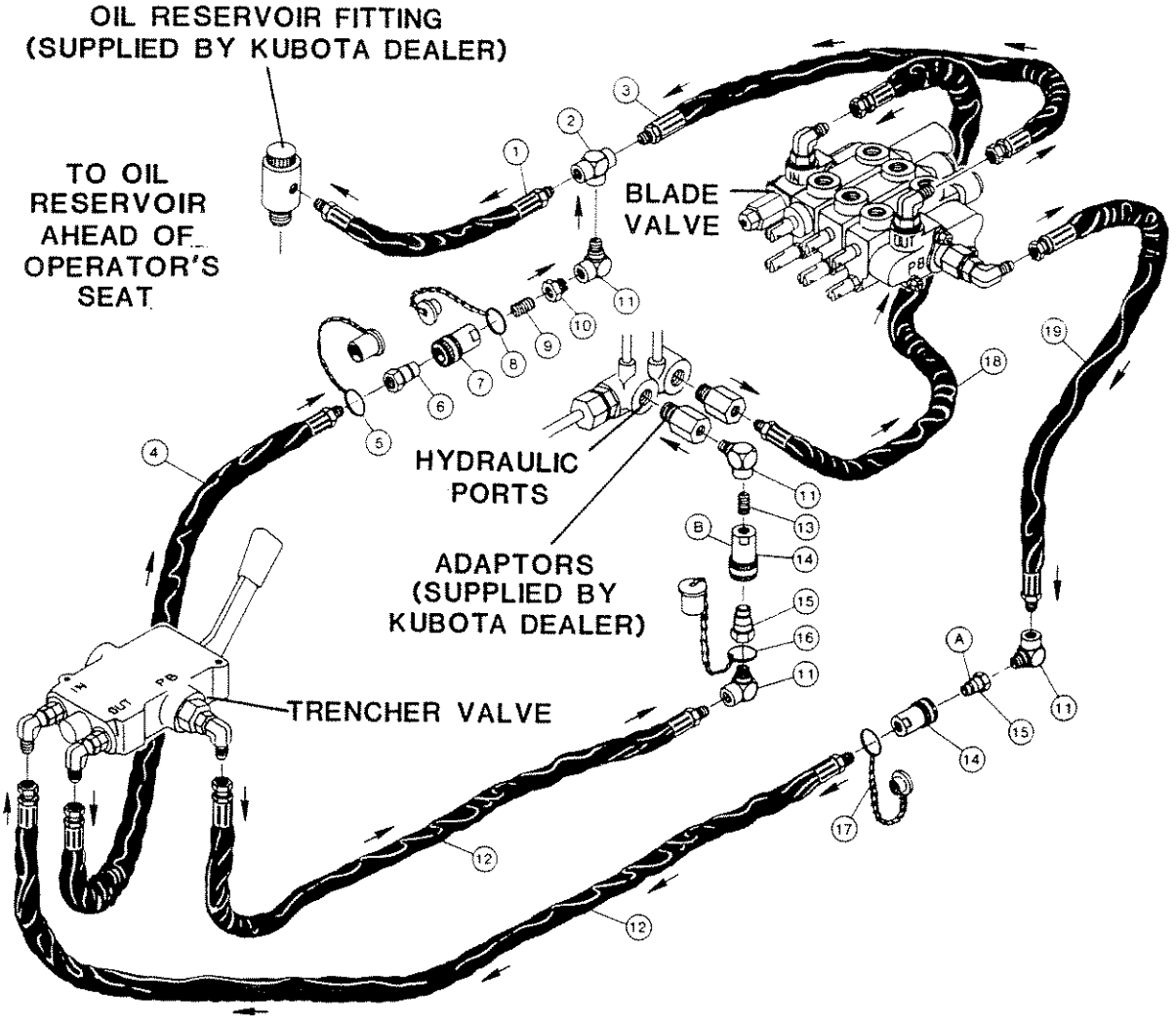
NOTE: Arrows Indicate Flow Direction.

When replacing hoses, always use original equipment parts or equal. Never change to a lower grade hose than specified. Hose lengths are important to hose routing and clearance requirements. Keep hoses away from operating personnel and sharp edges.

MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #62425
KUBOTA B7200HST



NOTE: The hydraulic ports shown in the above diagram are located on the right side of the tractor at the rear of the engine cover. Two adaptors (Kubota part #70050-02192) and two O-rings (Kubota part #70050-02193) are needed to attach the hydraulic fittings to the ports. They are available from your Kubota dealer. The oil reservoir fitting can also be ordered from your Kubota dealer under part #70050-01615 and is installed in the filler port just ahead of the tractor operator's seat.

This hydraulic kit comes complete with quick couplers for easy hook up. When the trencher is removed, be sure to connect male tip "A" to coupler "B" to complete the tractor/blade hydraulic circuit. Install the dust caps and plugs on the remaining couplers to keep all systems free of dust and contaminants.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #62425
KUBOTA B7200HST

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	35572	Hose Assembly .25" X 32" (SAE 100R1-1Wire) 6MP-6MP-HS
2	1	3135	.38" FNPT Tee
3	1	35571	Hose Assembly .25" X 22" (SAE 100R1-1Wire) 6FJX-6MP-HS
4	1	35410	Hose Assembly .25" X 70" (SAE 100R1-1Wire) 4MP-6FJX-HS
5	1	62186	.25" Dust Cap
6	1	61465	4NPT Male Tip
7	1	61464	4NPT Coupler
8	1	62187	.25" Dust Plug
9	1	3190	.25" Close Nipple
10	1	3089	.38" NPT .25" NPT Bushing
11	4	3320	90° Street Elbow .38"
12	2	35533	Hose Assembly .25" X 74" (SAE 100R1-1Wire) 6FJX-6MP-HS
13	1	3178	.38" Close Nipple
14	2	60355	6NPT Coupler
15	2	60356	6NPT Male Tip
16	1	61537	.38" Dust Cap
17	1	61538	.38" Dust Plug
18	1	35574	Hose Assembly .25" X 13.50" (SAE 100R1-1Wire) 6FJX-6MP-HS
19	1	35573	Hose Assembly .25" X 23" (SAE 100R1-1Wire) 6FJX-4MP-HS

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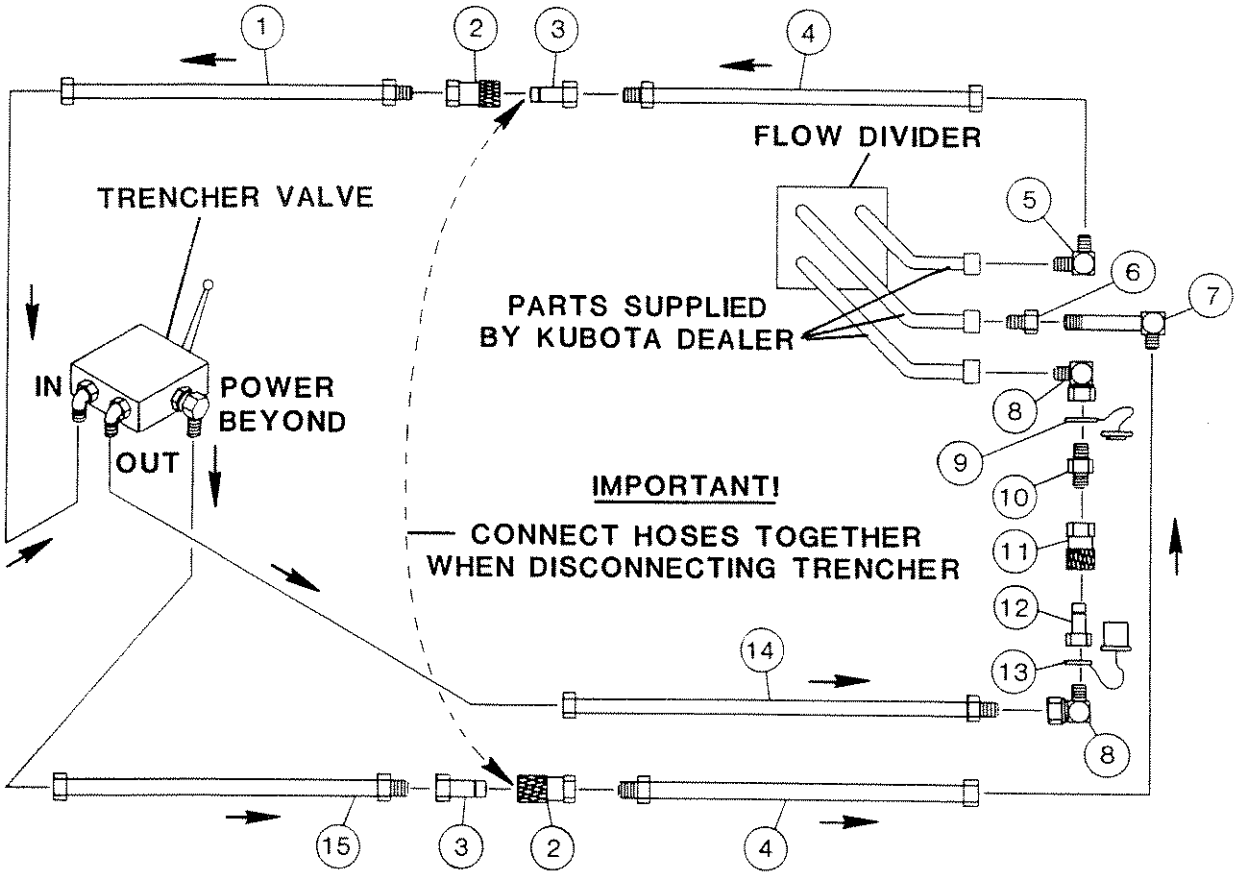
MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #60359
KUBOTA B8200HST



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NOTE: Flow Signified By Arrows

When replacing hoses, always use original equipment parts or equal. Never change to a lower grade hose than specified. Hose lengths are important to hose routing and clearance requirements. Keep hoses away from operating personnel.

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #60359
KUBOTA B8200HST

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	35845	Hose Assembly .25" X 45" (SAE 100R1-1Wire) 6FJX-4MP-HS
2	2	61464	.25" NPT Coupler
3	2	61465	.25" NPT Male Tip
4	2	35547	Hose Assembly .25" X 52" (SAE 100R1-1Wire) 6FJX-4MP-HS
5	1	3002	.38" MP-6MJ 90° Elbow
6	1	3089	.38" NPT .25" NPT Bushing
7	1	3088	.25" MP-.38" MJ 90° Long Male Adapter
8	2	3320	.38" NPT 90° Street Elbow
9	1	61538	.38" Dust Plug
10	1	3197	.38" NPT Hex Nipple
11	1	60355	.38" NPT Coupler
12	1	60356	.38" NPT Male Tip
13	1	61537	.38" Dust Cap
14	1	35430	Hose Assembly .25" X 88" (SAE 100R1-1Wire) 6FJX-6MP-HS
15	1	3633	Hose Assembly .25" X 26" (SAE 100R1-1Wire) 6FJX-4MP-HS

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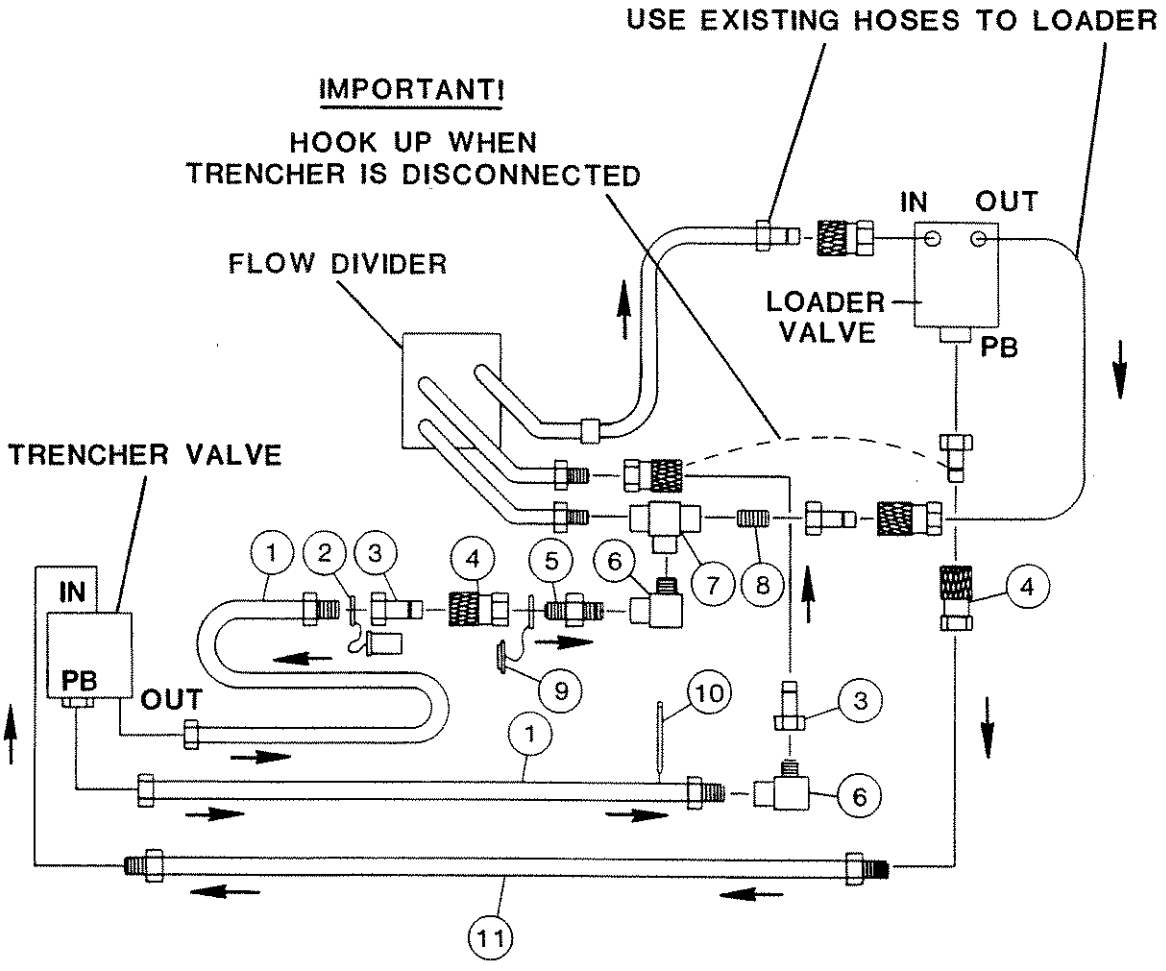
The following parts must be obtained from your Kubota dealer to connect the hydraulic kit fittings to the B8200 HST flow divider.

REQ'D	PART NO.	DESCRIPTION
3	54203-36150	Banjo Bolt
6	67111-37180	Gasket
3	70726-63612	Hydraulic Tube

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62059
KUBOTA B8200 WITH LOADER



MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #62059
KUBOTA B8200 WITH LOADER

NO.	REQ'D	PART NO.	DESCRIPTION
1	2	3880	Hose Assembly .25" X 104" (SAE 100R1-1Wire) 6FJX-6MP-HS
2	1	61537	.38" Dust Cap
3	2	60356	.38" NPT Male Tip
4	2	60355	.38" NPT Coupler
5	1	3197	.38" Male Connector
6	2	3320	.38" 90° Street Elbow
7	1	3135	.38" FNPT Tee
8	1	3178	.38" Close Nipple
9	1	61538	.38" Dust Plug
10	6	7104	Hose Ties
11	1	35262	Hose Assembly .25" X 118" (SAE 100R1-1Wire) 6FJX-6MP-HS

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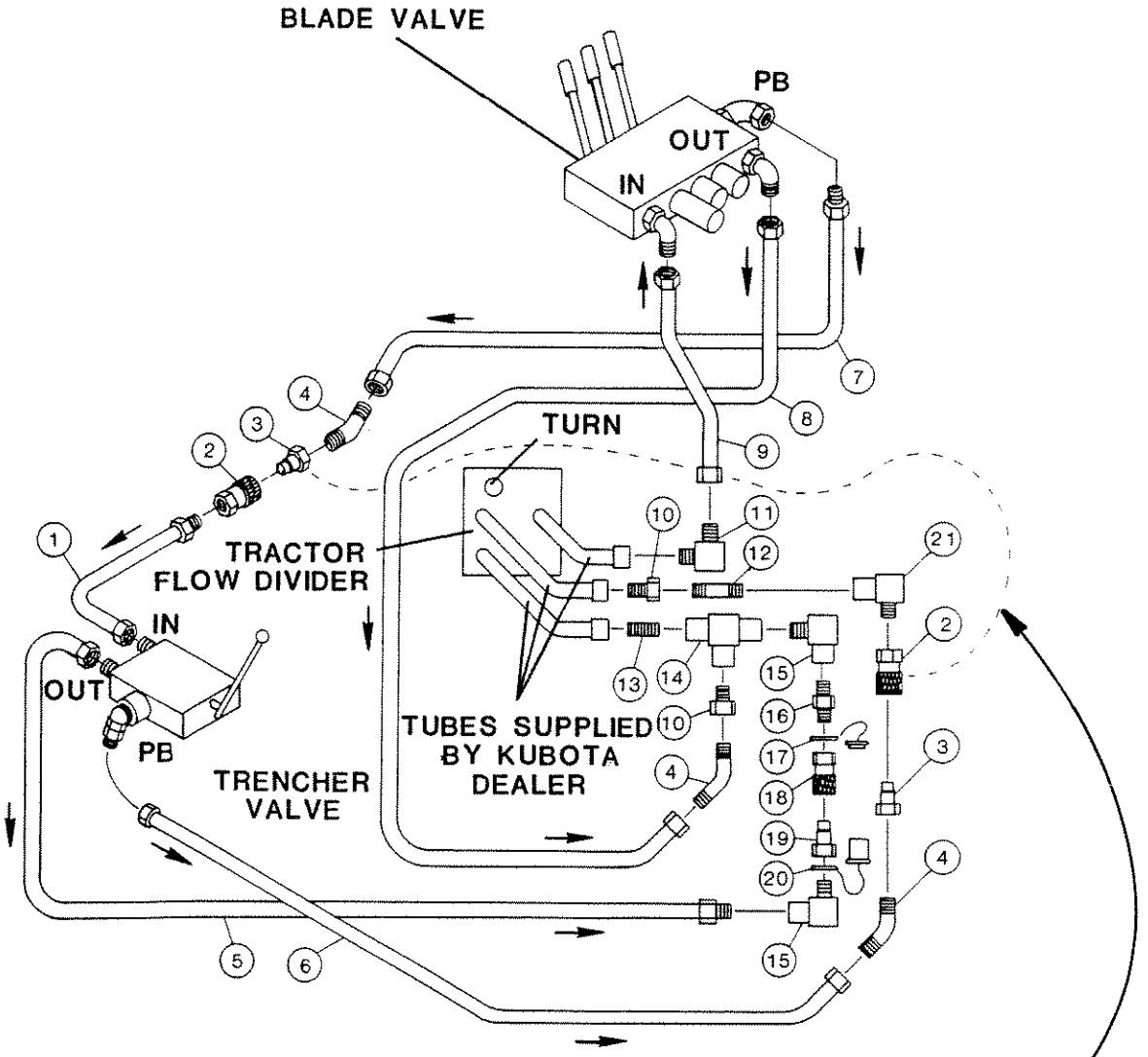
NOTE: Arrows Indicate Flow Direction

When replacing hoses, always use original equipment parts or equal. Never change to a lower grade hose than specified. Hose lengths are important to hose routing and clearance requirements. Keep hoses away from operating personnel.

MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #61536
KUBOTA B8200



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MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #61536
KUBOTA B8200

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	35187	Hose Assembly .25" X 89" (SAE 100R1-1Wire) 6FJX-4MP-HS
2	2	61464	.24" NPT Couplers
3	2	61465	.25" NPT Male Tip
4	3	3120	.25" MP - .38" MJ 45° Elbow
5	1	35430	Hose Assembly .25" X 88" (SAE 100R1-1Wire) 6FJX-6MP-HS
6	1	35534	Hose Assembly .25" X 78" (SAE 100R1-1Wire 6FJX-6FJX-HS
7	1	35530	Hose Assembly .25" X 18" (SAE 100R1-1Wire) 6FJX-4MP-HS
8	1	35531	Hose Assembly .25" X 17" (SAE 100R1-1Wire) 6FJX-6FJX-HS
9	1	35532	Hose Assembly .25" X 22" (SAE 100R1-1Wire) 6FJX-6FJX-HS
10	2	3089	.38" To .25" Bushing
11	1	3002	.38" NPT - .38" MJ 90° Elbow
12	1	3193	.25" X 2.00" Nipple
13	1	3178	.38" Close Nipple
14	1	3135	.38" NPTF Tee
15	2	3320	.38" 90° Street Elbow
16	1	3197	.38" Hex Nipple
17	1	61538	.38" Dust Plug
18	1	60355	.38" NPT Coupler
19	1	60356	.38" NPT Male Tip
20	1	61537	.38" Dust Cap
21	1	3171	.25" 90° Street Elbow

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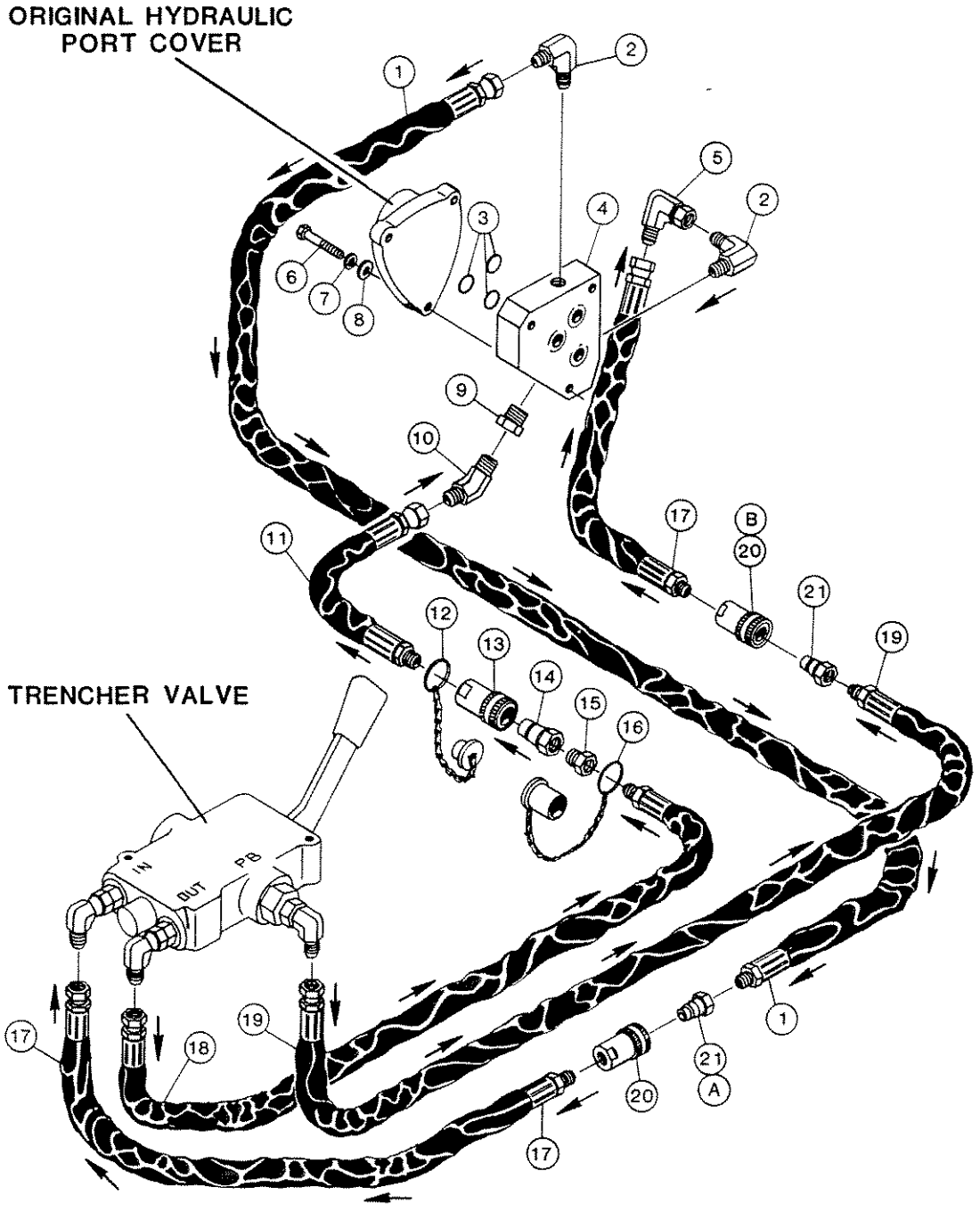
* Arrows Indicate Flow Direction

MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #64382
MASSEY FERGUSON 1010 & MITSUBISHI 180



IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

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MOUNTING KIT INSTALLATION

TRENCHER HYDRAULIC KIT #64382
MASSEY FERGUSON 1010 & MITSUBISHI 180

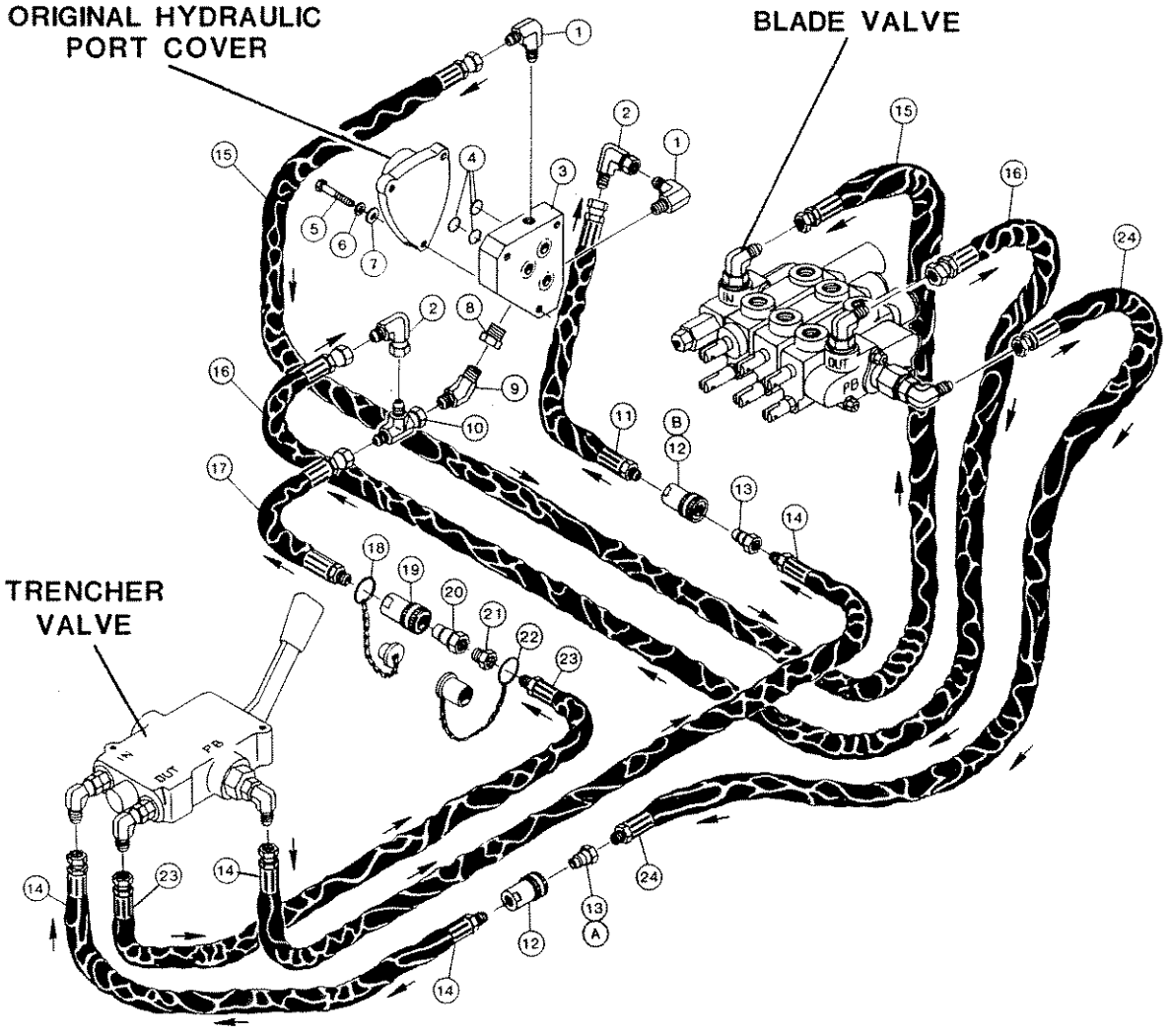
NO.	REQ'D	PART NO.	DESCRIPTION
1	1	35563	Hose Assembly .38" X 30" (SAE 100R1-1Wire) 6MP-6FJX-HS
2	2	3002	90° Elbow 6MP-6MJ
3	3	45003	O-Ring
4	1	52203	Hydraulic Manifold
5	1	3430	90° Adapter 6MJ-6FJX
6	3	2612	M8 X 80mm DIN 931 Capscrew
7	3	2531	8mm Lock Washer
8	3	2511	8mm Flat Washer
9	1	3089	.38" to .25" NPT Bushing
10	1	3120	45° Adapter 4MP-6MJ
11	1	35816	Hose Assembly .38" X 15" (SAE 100R1-1Wire) 6FJX-8MP-HS
12	1	51754	.50" Dust Plug
13	1	51338	.50" NPT Coupler
14	1	51339	.50" NPT Male Tip
15	1	3007	.50" to .38" NPT Bushing
16	1	51753	.50" Dust Cap
17	2	35561	Hose Assembly .38" X 22" (SAE 100R1-1Wire) 6FJX-6MP-HS
18	1	35691	Hose Assembly .25" X 36" (SAE 100R1-1Wire) 6MP-6FJX-HS
19	1	35729	Hose Assembly .25" X 42" (SAE 100R1-1Wire) 6MP-6FJX-HS
20	2	60355	.38" NPT Coupler
21	2	60356	.38" NPT Male Tip
	1	3138	Straight Adapter (Not shown - used with Mitsubishi loader only. Fitting adapts loader valve power beyond hose to accept male tip #60356 for connecting with trencher "in" hose.)

NOTE: Hydraulic manifold bolts onto tractor between differential casting and a hydraulic port cover. This hydraulic port is located on the left side of the tractor under the edge of the rear fender mounting by the 3-point lift arm.

This hydraulic kit comes complete with quick couplers for easy hook up. When the trencher is removed, be sure to connect male tip "A" to coupler "B" to complete the tractor hydraulic circuit. For the trencher valve hoses, connect the male tip of the "power beyond" port hose to the coupler on the "in" port hose. Install the dust cap and plug on the remaining couplers to keep all systems free of dust and contaminants.

MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #66383
MASSEY FERGUSON 1010 & DEUTZ ALLIS 5215



NOTE: Hydraulic manifold bolts onto tractor between differential casting and a hydraulic port cover. This hydraulic port is located on the left side of the tractor under the edge of the rear fender mounting by the 3-point lift arm.

This hydraulic kit comes complete with quick couplers for easy hook up. When the trencher is removed, be sure to connect male tip "A" to coupler "B" to complete the tractor/ blade hydraulic circuit. For the trencher valve hoses, connect the male tip of the "power beyond" port hose to the coupler on the "in" port hose. Install the dust cap and plug on the remaining couplers to keep all systems free of dust and contaminants.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

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MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #66383
MASSEY FERGUSON 1010 & DEUTZ ALLIS 5215

NO.	REQ'D	PART NO.	DESCRIPTION
1	2	3002	90° Elbow 6MP-6MJ
2	2	3430	90° Adapter 6MJ-6FJX
3	1	52203	Hydraulic Manifold
4	3	45003	O-Ring
5	3	2612	M8 X 80mm DIN 931 Capscrew
6	3	2531	8mm Lock Washer
7	3	2511	8mm Flat Washer
8	1	3089	.38" to .25" NPT Bushing
9	1	3120	45° Adapter 4MP-6MJ
10	1	3346	Tee 6MJ-6MJ-6FJX
11	1	35561	Hose Assembly .38" X 22" (SAE 100R1 1Wire) 6FJX-6MP-HS
12	2	60355	.38" NPT Coupler
13	2	60356	.38" NPT Male Tip
14	2	35729	Hose Assembly .25" X 42" (SAE 100R1 1Wire) 6MP-6FJX-HS
15	1	35867	Hose Assembly .25" X 94" (SAE 100R2 2Wire) 6FJX-6FJX-HS
16	1	35866	Hose Assembly .25" X 84" (SAE 100R2 2Wire) 6FJX-6FJX-HS
17	1	35816	Hose Assembly .38" X 15" (SAE 100R1 1Wire) 6FJX-8MP-HS
18	1	51754	.50" Dust Plug
19	1	51338	.50" NPT Coupler
20	1	51339	.50" NPT Male Tip
21	1	3007	.50" To .38" NPT Bushing
22	1	51753	.50" Dust Cap
23	1	35691	Hose Assembly .25" X 36" (SAE 100R1 1Wire) 6MP-6FJX-HS
24	1	37018	Hose Assembly .38" X 60" (SAE 100R2 2Wire) 6FJX-6MP-HS

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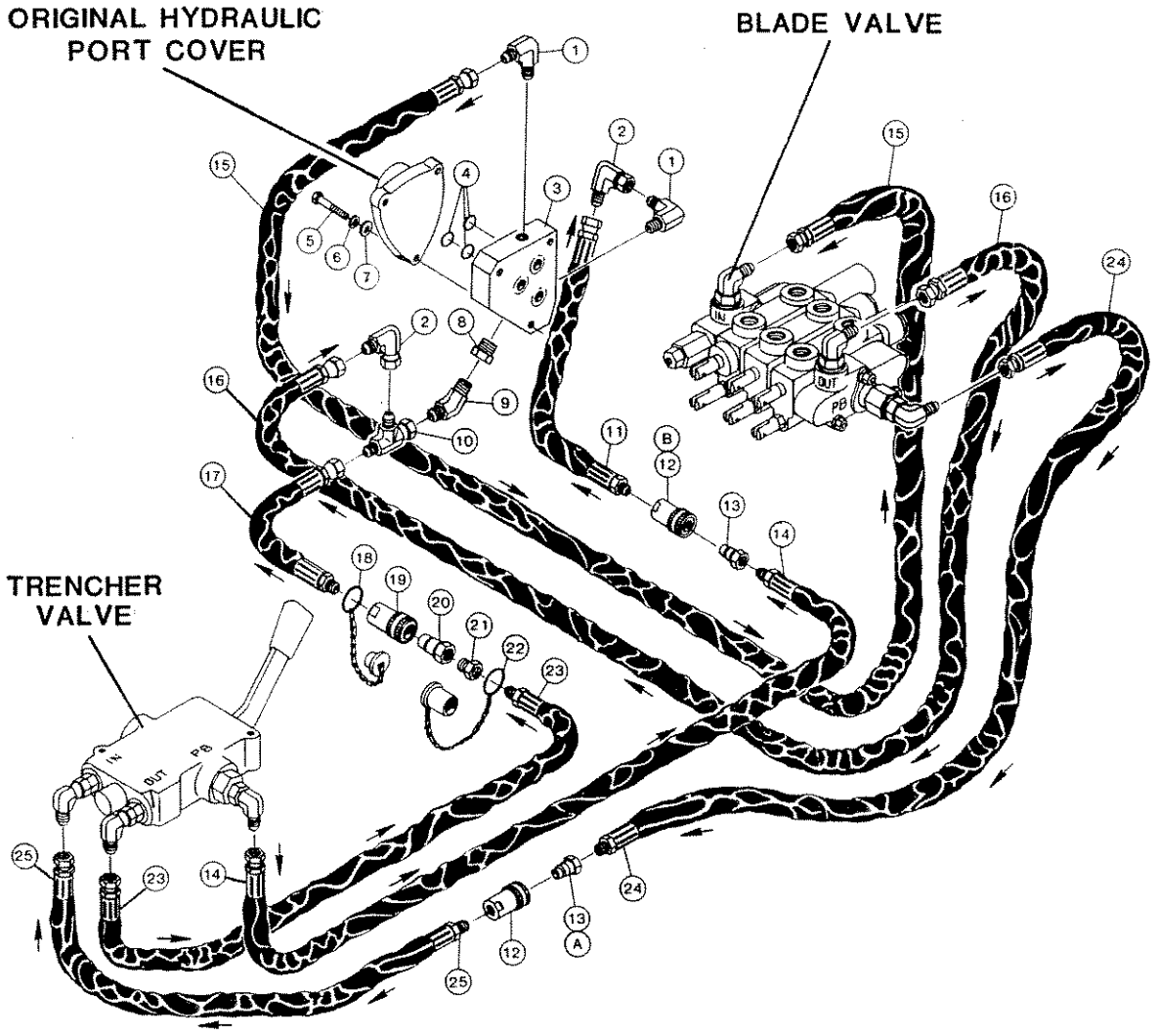
MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #65752
MITSUBISHI 180 & INTERNATIONAL HARVESTER 234



NOTE: Hydraulic manifold bolts onto tractor between differential casting and a hydraulic port cover. This hydraulic port is located on the left side of the tractor under the edge of the rear fender mounting by the 3-point lift arm.

This hydraulic kit comes complete with quick couplers for easy hook up. When the trencher is removed, be sure to connect male tip "A" to coupler "B" to complete the tractor/ blade hydraulic circuit. For the trencher valve hoses, connect the male tip of the "power beyond" port hose to the coupler on the "in" port hose. Install the dust cap and plug on the remaining couplers to keep all systems free of dust and contaminants.

IMPORTANT: The arrows used on this diagram show the direction of hydraulic flow through the hydraulic kit. This flow pattern must be maintained for proper operation of the trencher. Improper hose routing could result in possible damage to the trencher or tractor.

MOUNTING KIT INSTALLATION

TRENCHER & BLADE HYDRAULIC KIT #65752
MITSUBISHI 180 & INTERNATIONAL HARVESTER 234

NO.	REQ'D	PART NO.	DESCRIPTION
1	2	3002	90° Elbow 6MP-6MJ
2	2	3430	90° Adapter 6MJ-6FJX
3	1	52203	Hydraulic Manifold
4	3	45003	O-Ring
5	3	2612	M8 X 80mm DIN 931 Capscrew
6	3	2531	8mm Lock Washer
7	3	2511	8mm Flat Washer
8	1	3089	.38" to .25" NPT Bushing
9	1	3120	45° Adapter 4MP-6MJ
10	1	3346	Tee 6MJ-6MJ-6FJX
11	1	35817	Hose Assembly .38" X 20" (SAE 100R2 2Wire) 6FJX-6MP-HS
12	2	60355	.38" NPT Coupler
13	2	60356	.38" NPT Male Tip
14	1	35729	Hose Assembly .25" X 42" (SAE 100R1 1Wire) 6MP-6FJX-HS
15	1	35818	Hose Assembly .38" X 34" (SAE 100R2 2Wire) 6FJX-6FJX-HS
16	1	35848	Hose Assembly .25" X 36" (SAE 100R1 1Wire) 6FJX-6FJX-HS
17	1	35816	Hose Assembly .38" X 15" (SAE 100R1 1Wire) 6FJX-8MP-HS
18	1	51754	.50" Dust Plug
19	1	51338	.50" NPT Coupler
20	1	51339	.50" NPT Male Tip
21	1	3007	.50" To .38" NPT Bushing
22	1	51753	.50" Dust Cap
23	1	35691	Hose Assembly .25" X 36" (SAE 100R1 1Wire) 6MP-6FJX-HS
24	1	35819	Hose Assembly .38" X 34" (SAE 100R2 2Wire) 6FJX-6MP-HS
25	1	35561	Hose Assembly .38" X 22" (SAE 100R1 1Wire) 6MP-6FJX-HS

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NOTE: The hydraulic port cover must be the type with the relief cartridge in it's casting. This type of cover comes standard on the Mitsubishi 180 tractor. The cover DOES NOT come standard on the International Harvester 234, but must be ordered from American Trencher Inc. under part #65754.

TRENCHER INSTALLATION

3-POINT HITCH

GENERAL INFORMATION

The following instructions will help you to mount the trencher onto your tractor. The trencher uses the 3-point hitch system for ease of installation, therefore if you have ever installed 3-point hitch equipment before, installing the trencher should prove no problem.

You must install the appropriate "Trencher Hydraulic Kit" prior to installing the trencher. If you have not installed the hydraulic kit, turn to Section E and do so now. Remember to read all safety warnings, decals, and operating instructions before operating the tractor or trencher.

IMPORTANT: A front counterweight may be necessary for proper transportation and operation of the tractor and trencher. A minimum of 20% of the gross vehicle weight must be on the tractor's front axle.

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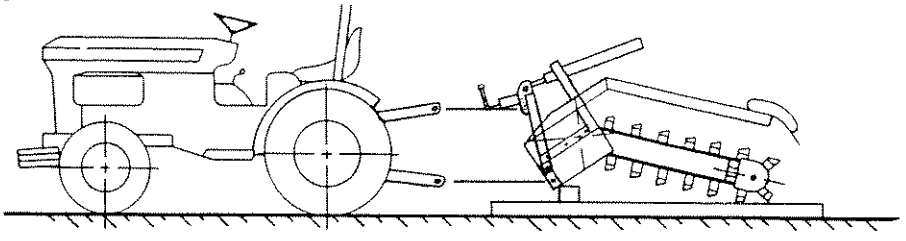
MOUNTING INSTRUCTIONS

1. If you have not done so already, remove the steel shipping banding from around the trencher and skid.

2. Following proper start up and backing proceedures as noted in your tractor operator's manual, back the tractor up to the rear of the trencher and skid.

FIGURE 1



3. Adjust the tractor's 3-point hitch system to accept the trencher. Continue backing the tractor up to the trencher and then attach the trencher by positioning the lower links onto the trencher's hitch pins. Secure with klik pins provided.

4. Position the top link of the tractor in place between the ears of the trencher's top linkage. Use the mounting hole in the linkage that will allow all three 3-point links to run parallel. Secure the top link.

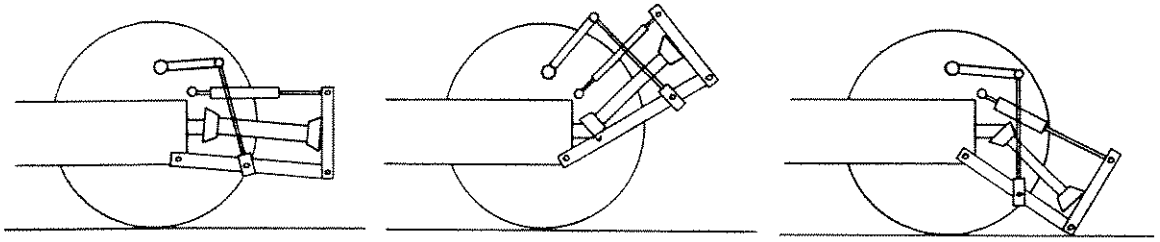
5. Adjust the lower link anti-sway chains to center the trencher.

6. Complete the hydraulic plumbing by connecting the hydraulic couplers as shown on your "Trencher Hydraulic Kit" diagram.

TRENCHER INSTALLATION

3-POINT HITCH

FIGURE 2



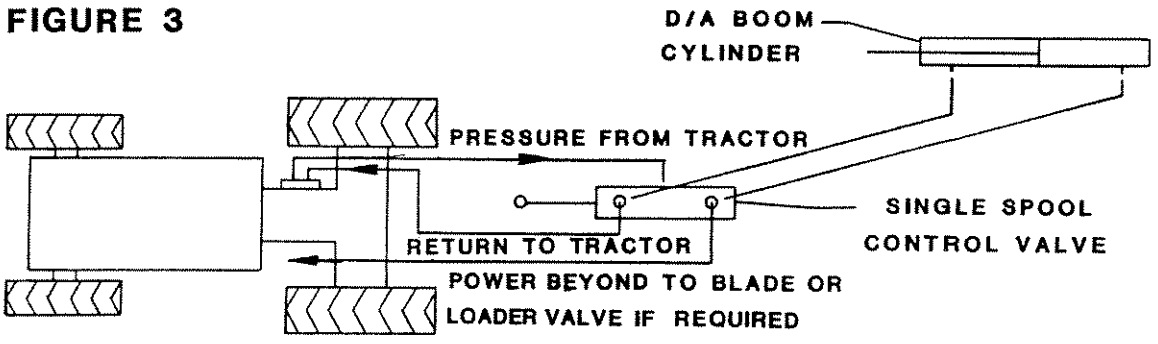
Okay for digging.

Okay for transport. Too much bend for PTO operation.

Too low. Too much bend for PTO operation.

A single spool valve operates the trencher pivot cylinder and thus the trencher boom lift. Refer to your tractor operator's manual to ensure correct plumbing between the valve and the tractor's external auxiliary hydraulic service. The trencher valve is supplied with a power beyond feature to provide power to your front blade or loader if so required.

FIGURE 3



WARNING!

Escaping fluid under pressure can have sufficient force to penetrate the skin causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.

Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research it immediately to determine proper treatment.

7. With the hydraulics hooked up, raise the trencher and remove the skid.

8. Now lower the trencher to the ground.

9. Turn the tractor engine off and set the parking brake.

TRENCHER INSTALLATION

3-POINT HITCH

10. Take the PTO drive shaft and compress it together as far as it will go.

11. Place the clutch end of the PTO drive shaft over the trencher gear box shaft. Pull the PTO drive shaft locking ring back against the clutch to release the lock and slide the PTO drive shaft the rest of the way onto the trencher gear box shaft. Release the locking ring to lock the PTO drive shaft into place.

FIGURE 4

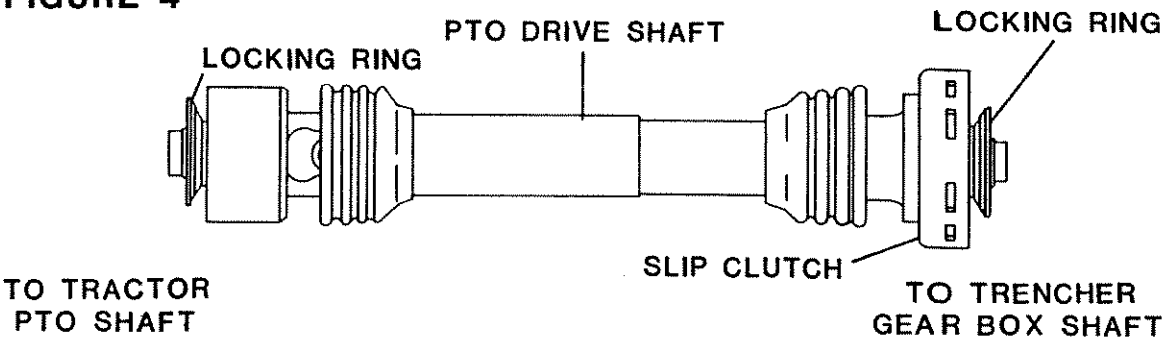
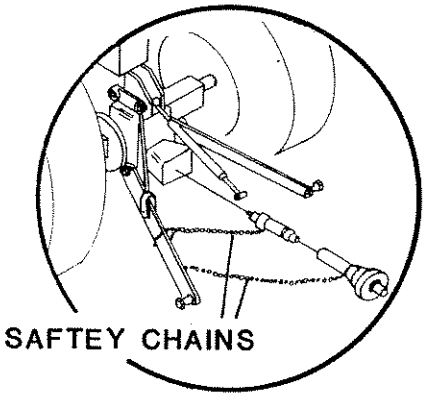


FIGURE 5



12. Extend the PTO drive shaft to allow the other end to slide over the tractor's PTO shaft. Again, pull the locking ring back and slide the PTO drive shaft the rest of the way onto the tractor's PTO shaft. Release the locking ring to lock into place.

13. Attach the two safety chains to one of the 3-point hitch links by either clipping them to a hole in the link, or by wrapping them around the link and clipping them to themselves.

14. Complete the "Predelivery Checklist" located in Section R.

15. Trencher installation is now complete. Again you are reminded to read all safety warnings, decals, and operating instructions before operating the trencher.

OPERATING INSTRUCTIONS

CONTROLS

605 TRENCHER

GENERAL INFORMATION

Simplicity of operation is one of the key features of the 605 trencher. There is only one control on the trencher itself, and just a few adjustments to check. It is important however to be familiar with, and know the controls and adjustments on both the trencher and the tractor. Such knowledge is crucial for safe, efficient operation of equipment. Take the time to learn how they operate now.

THE TRACTOR

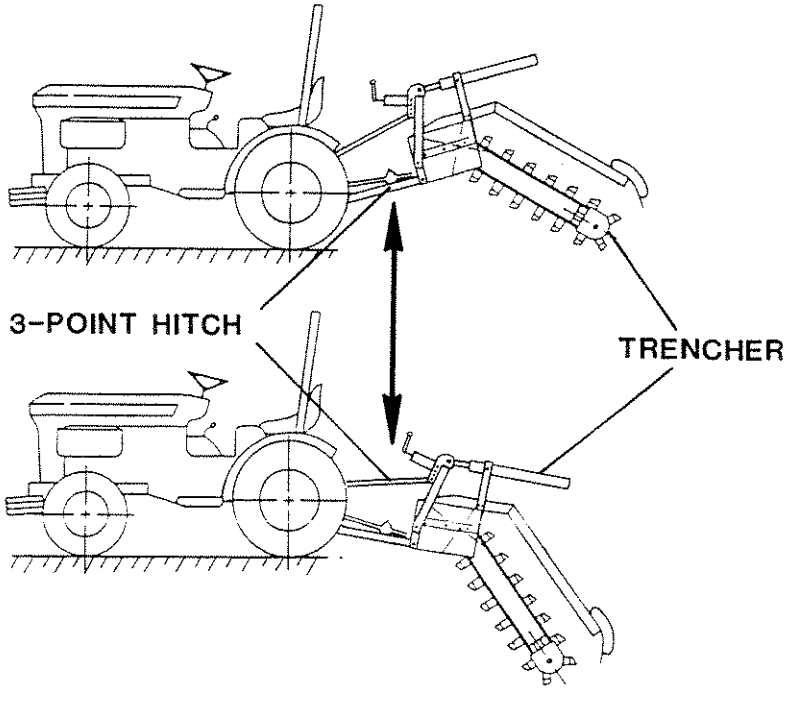
Your trencher mounts to the 3-point hitch system of the tractor. Due to this arrangement, thorough knowledge of the tractor and hitch controls is necessary for trencher operation. Read your tractor owner's manual for information reguarding tractor operation before attempting to use the trencher.

RAISING/LOWERING THE TRENCHER

Raise/lower the trencher unit by raising/lowering the tractor 3-point hitch arms through their appropriate tractor controls. See Figure 1

CAUTION: Become aware of any overhead power or telephone lines, tree limbs, etc. that the raised trencher could come into contact with. Contact with electrical lines could cause electrocution and death.

FIGURE 1



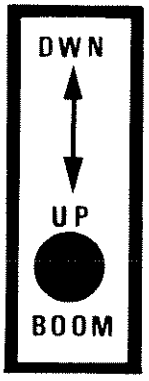
OPERATING INSTRUCTIONS

CONTROLS
605 TRENCHER

TILTING THE TRENCHER

Tilt the trencher unit up or down by operating the control valve located on the trencher linkage. Pushing the lever to the "down" position (away from the operator) will tilt the boom toward the ground. Pulling the lever to the "up" position (toward the operator) will tilt the boom up toward the operator.

FIGURE 2



CONTROL VALVE DECAL

STARTING AND STOPPING THE TRENCHER

Power to the trencher is supplied by the tractor's PTO. Power is transfered from the PTO shaft, through the trencher's PTO drive shaft and gear box, and finally to the trencher's auger, drive sprocket, and digging chain. Start the digging chain by engaging the tractor PTO. Stop the digging chain by disengaging the tractor PTO.

TRENCHER SPEED CONTROL

Again it may be noted that power to the trencher is supplied by the tractor PTO. To increase trencher speed, increase the tractor PTO shaft speed. To decrease trencher speed, decrease PTO speed.

AUGER HEIGHT

The auger is fixed to the trencher mainframe and has no separate adjustment. To raise the auger, raise the trencher as previously described. This will raise the auger and thus leave the dirt or spoil closer to the trench.

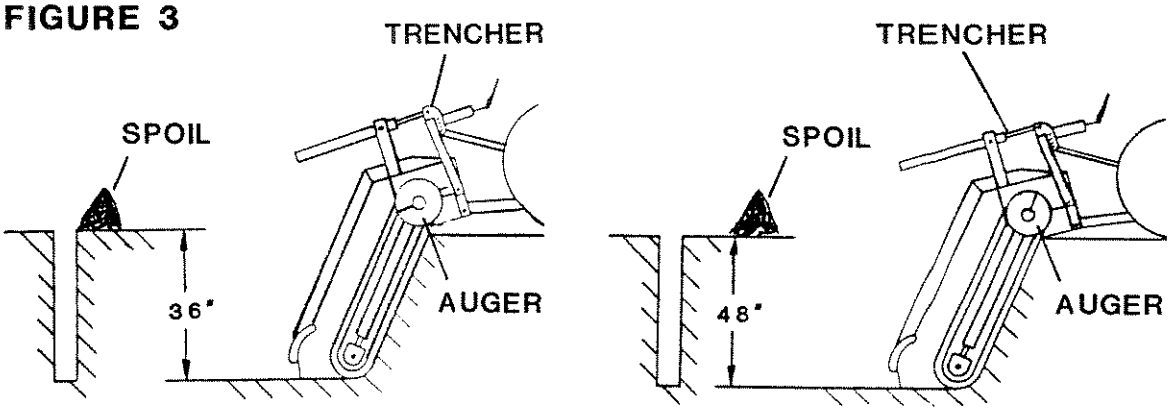
Lowering the trencher will cause the auger to lower, moving the spoil away from the trench. The auger should not be lowered to the extent that the auger itself starts to dig in the ground. This will greatly reduce efficiency.

OPERATING INSTRUCTIONS

CONTROLS
605 TRENCHER

It should be noted that raising or lowering the trencher to change the auger height will also change the trenching depth. You will need to compensate for this by changing the tilt of the trencher down or up accordingly. See Figure 3

FIGURE 3

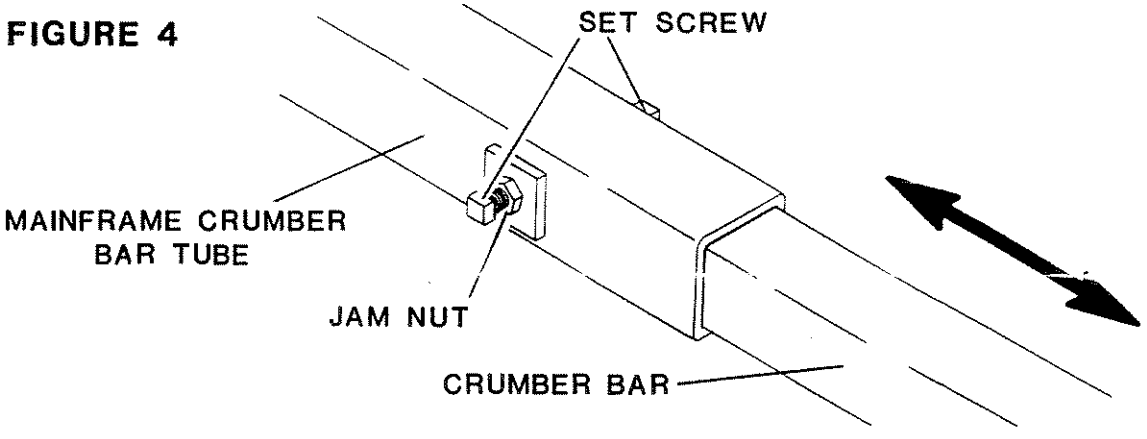


CRUMBER SHOE/BAR ADJUSTMENT

The purpose of the crumber shoe is to keep any loose dirt in the trench close enough to the digging chain so that the digging teeth can grab it and remove it. This will give you a cleaner finished trench. Your trencher has an adjustable crumber bar that can be lengthened or shortened to bring the crumber shoe closer to or farther from the digging chain.

To adjust the crumber bar length, loosen the two jam nuts found at the end of the mainframe crumber bar tube. With the jam nuyts loose, loosen the set screws on the tube. Slide the bar in or out to achieve the desired spacing (we suggest a distance of about 4" between crumber shoe and digging teeth for best overall results). Tighten the set screws and jam nuts when finished. See Figure 4

FIGURE 4

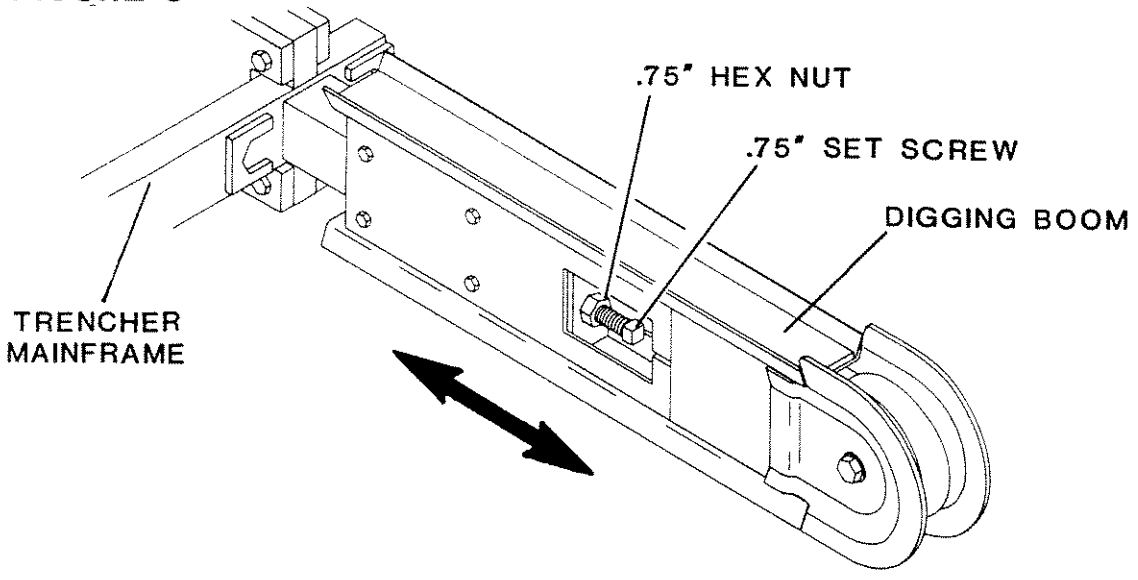


CHAIN TENSION ADJUSTMENT

When trenching, the digging chain tension should be adjusted so that the chain is as loose as possible, without jumping off the sprocket or idler wheel. To do this, an adjustment is provided on the digging boom. There are two different styles of chain tension adjusters, they are described separately below.

The first style is found on shorter booms (24" & 30"). If you look at the boom, you will see a rectangular opening along the side near the center. At the back of the opening inside the boom there is a .75" set screw and hex nut. The nut acts as a jam nut and must be "backed off" from the boom. To tighten chain, turn the set screw clockwise into the boom. This effectively lengthens the boom and thus tightens the chain. To loosen the chain turn the set screw counterclockwise. When proper chain tension is reached, tighten down the nut to hold the setting. See Figure 5

FIGURE 5



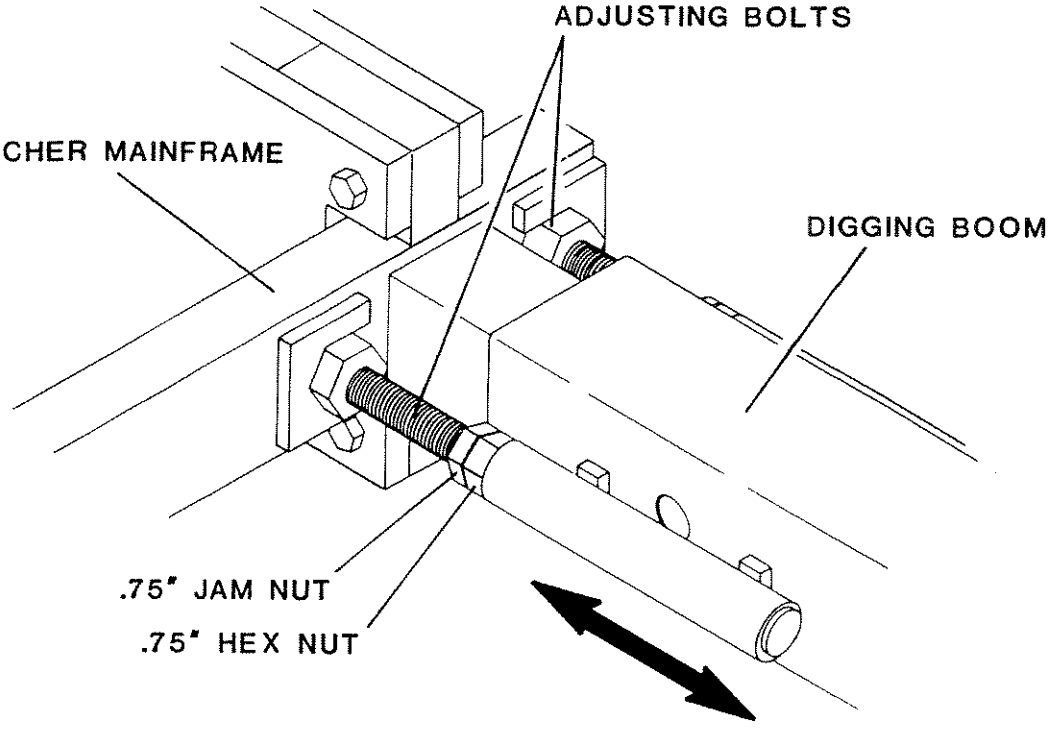
The second style of chain tension adjusters are found on longer booms (36" & 48"). These booms have an adjusting bolt on each side at the trencher end of the boom. The head of the bolts are kept from rotating by special plates welded onto the mainframe. The end of the bolt rest in a tube welded to the boom. Each bolt has a jam nut and a .75" hex nut on it. To tighten the chain, "back off" the jam nuts from the regular nuts. Now turn the standard nuts off the adjusting bolts. This will push the boom out and thus tighten the chain. Retighten the jam nut when finished. To loosen the chain, follow the same procedure, except turn the hex nut onto the adjusting bolt. See Figure 6

OPERATING INSTRUCTIONS

CONTROLS

605 TRENCHER

FIGURE 6



This procedure must be done simultaneously to both adjusting bolts to prevent the boom from becoming wedged onto it's mount.

CAUTION! Never work on, or make adjustments to any part of the trencher while the unit is running. You could get caught in the digging teeth and severely injured or killed.

It is common for your trencher to need it's digging chain tightened after the first 10 to 20 minutes of operation as the chain and sprocket seat themselves.

OPERATING INSTRUCTIONS

OPERATING TECHNIQUES
3-POINT HITCH TRENCHERS

GENERAL INFORMATION

The design of your trencher makes it relatively simple to use. With the help of the information in this section and a little practice you should become proficient in it's operation in no time. Observe the following points to obtain the best results with the least amount of wear on the machine. Read the "Safety Precautions" section of this manual before you begin. (See Section B)

CAUTION! Operate the trencher only when seated at the tractor controls.

Do not operate the tractor without proper ROPS (Roll-Over Protective-Structure), seat belt, and hard hat.

Pay attention to the job at hand. Be alert to the possibilities of others in the work area.

Never let anyone work around, or perform maintenance on the trencher while it is running.

BEFORE YOU START TRENCHING

Before any excavating is started, it is always a good idea to plan out the job first. Various things need to be considered and taken into account prior to the actual trenching. The operator should inspect the job site and take notice of any potential hazards in the area. He should have a complete understanding of the tasks he is expected to perform. Figure out what will be done with the spoil (excavated soil), will it be used to backfill or be trucked out? What are the soil conditions like? Will you have to work around others? Etc.

WARNING! Check the prospective trenching area for hidden utility lines before operating the trencher. Contacting a utility line with the trencher could cause electrocution or possible explosion resulting in death. Call all utility companies and have them plot out all their lines first. If you damage a utility line, shut off the equipment at once and contact the affected utility immediately.

Once you have become familiar with the job site and understand the job requirements it is time to set up for the actual trenching. Check the soil type (hard, soft, rocky, etc.) and the trenching requirements (how deep, wide, etc.). Install the proper digging chain, sprocket, boom, crumber boom and shoe for the job at hand. (Information on chain, sprocket, boom, crumber boom and shoe may be found in Sections I and J.)

OPERATING INSTRUCTIONS

OPERATING TECHNIQUES
3-POINT HITCH TRENCHERS

Mark off the area to be trenched out. This can be done with powdered lime, chalk, or a guide string and stakes. Block off the area from others if possible.

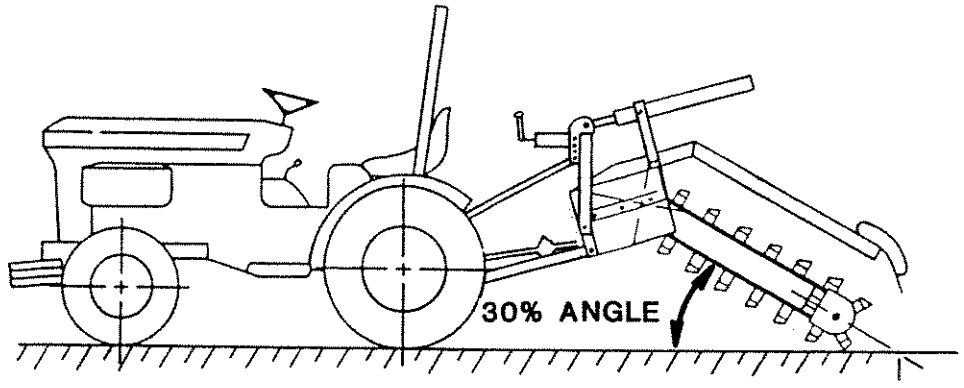
STARTING THE TRENCH

Position the tractor with the trencher boom directly over the center of the trench layout. It will take about 4' of trenching before the trencher will be able to operate at the desired level, so plan for this and position the trencher about 4' behind where you want the actual trench to start. Apply the tractor foot brake. This will prevent the tractor from being pulled backwards when the digging teeth contact the ground.

NOTE: The tractor is driven forward when trenching. You cannot trench driving the tractor in reverse.

Raise the trencher with the 3-point hitch arms and tilt the trencher down at a 30° angle. See Figure 7. Position the unit so that the digging teeth are just above ground level. The PTO drive shaft should be approximately level.

FIGURE 7



Set the tractor engine speed at half throttle. Engage the tractor PTO to 540 RPM to start the digging chain in motion.

CAUTION! **When lowering a moving digging chain to the ground the force of the teeth grabbing the ground will try to pull the tractor suddenly backwards. BE prepared. Have the brake on the tractor set to help counteract the force.**

OPERATING INSTRUCTIONS

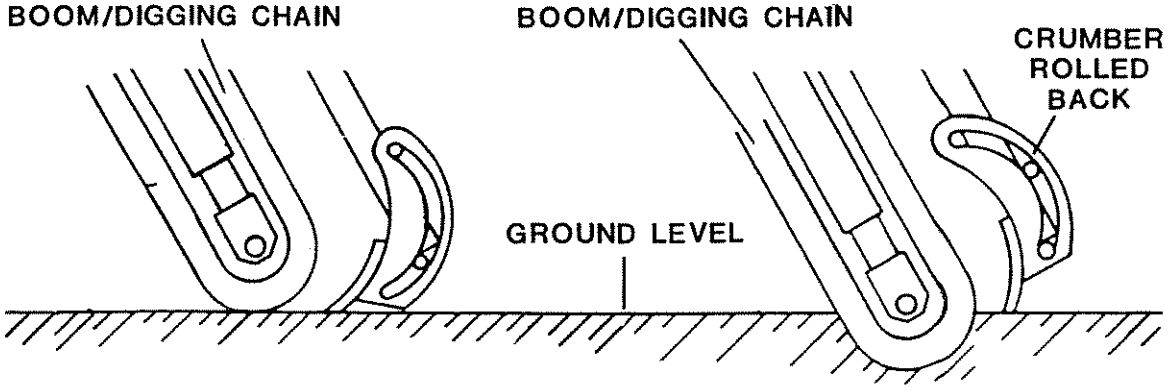
OPERATING TECHNIQUES

3-POINT HITCH TRENCHERS

Slowly lower the digging chain into the ground to start the trench. Do this by lowering the trencher with the 3-point hitch arms. To begin trenching, always lower the 3-point hitch first, followed by the trencher boom using the trencher controls. A combination of the 3-point hitch and trencher boom position will give the desired trench depth and spoil placement. Operate the PTO driveline at the correct boom approach angle. Greater angles may cause premature component failure. Continue lowering the unit until the crumber end rolls all the way back on the crumber bar. See Figure 8

IMPORTANT: After the crumber end has rolled all the way back, do not lower the trencher any farther without engaging the tractor forward drive. Failure to do so could result in bending of the crumber bar, which is not covered by the warranty.

FIGURE 8

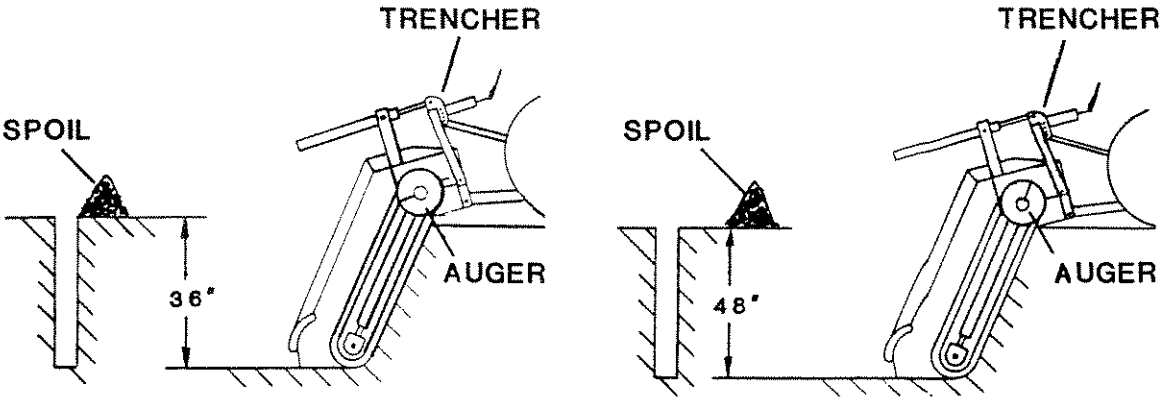


Once the crumber end has 'bottomed out", engage the tractor's forward drive and begin slowly creeping the tractor forward while continuing to lower the trencher boom to the desired depth. When nearing the required depth, stop lowering and tilt the trencher to a 60°-65° angle. A 60°-65° angle works best for general trenching.

WARNING! **Be alert to what is happening around you. Look ahead before moving the tractor to trench. Be aware of any person or thing in the path of the tractor. Observe any terrain changes such as drop-offs or soft ground.**

When trenching, remember to keep in mind the spoil placement. Position the trencher so that the auger floats at ground level to move spoil away from the trench. See Figure 9

FIGURE 9



Raise the trencher so that the auger rides above ground level to leave the spoil beside the trench. The higher the auger, the closer to the trench the spoil will be placed. You may find that it generally takes less power to run the digging chain if the auger runs 3"-6" inches off the ground, and thus increasing the potential footage of trench produced per hour. The higher you want the auger, the more vertical you will have to tilt the trencher to achieve the same trench depth.

With the desired trench depth reached, advance the tractor throttle to the desired engine RPM. Continue creeping the tractor forward.

STALLING THE TRENCHER

If the trencher stalls while digging, move the tractor backwards slightly to free the trencher.

TURNING WHILE TRENCHING

Gradual turns can be made while trenching. However the tightness of the turn is directly proportional to the angle and length of the boom. In other words, the greater the angle of the trencher boom to the ground level, the sharper the turn that can be trenched, see Figures 10 and 11. Also the shorter the boom length the sharper the possible turn. Remember, the greater the increase in boom angle the higher the unit will have to be raised out of the trench to keep a unified trench depth. Shallow boom angles will severely limit turning ability.

IMPORTANT: Turning to tightly while trenching will cause the trencher to jam in the trench and stall. Turning to tightly can also cause the trencher boom to bend. Take it easy when turning. Proceed slowly with caution.

FIGURE 10

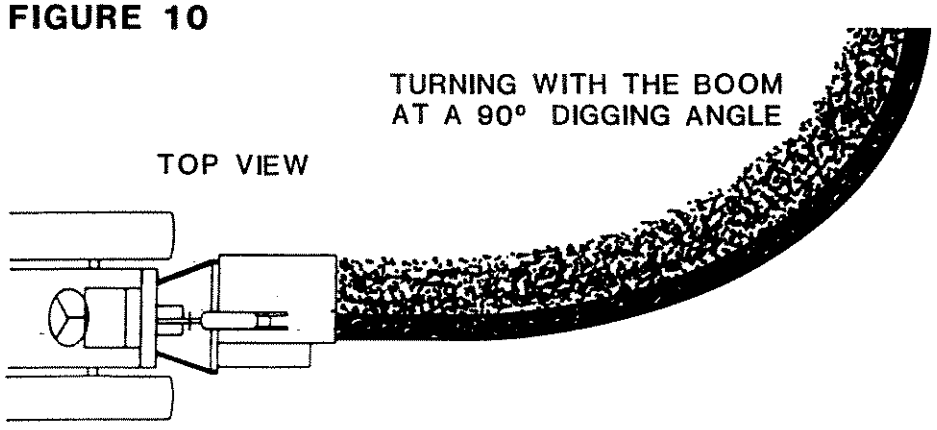
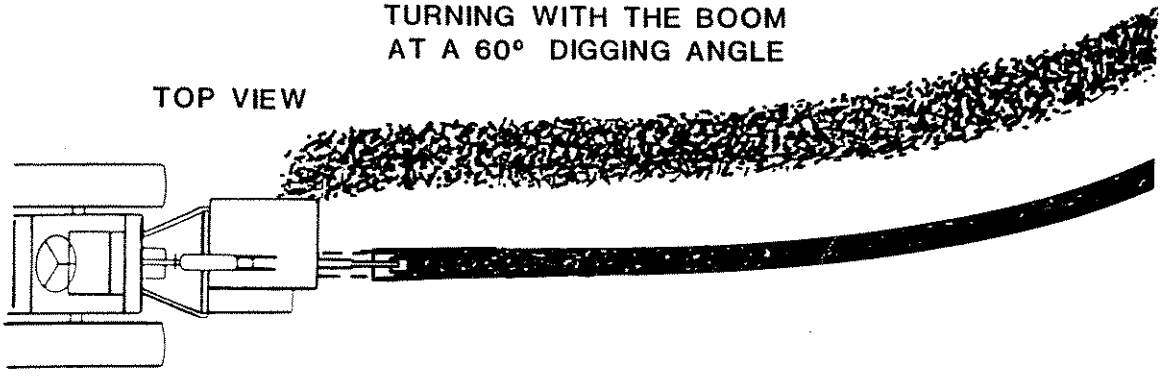


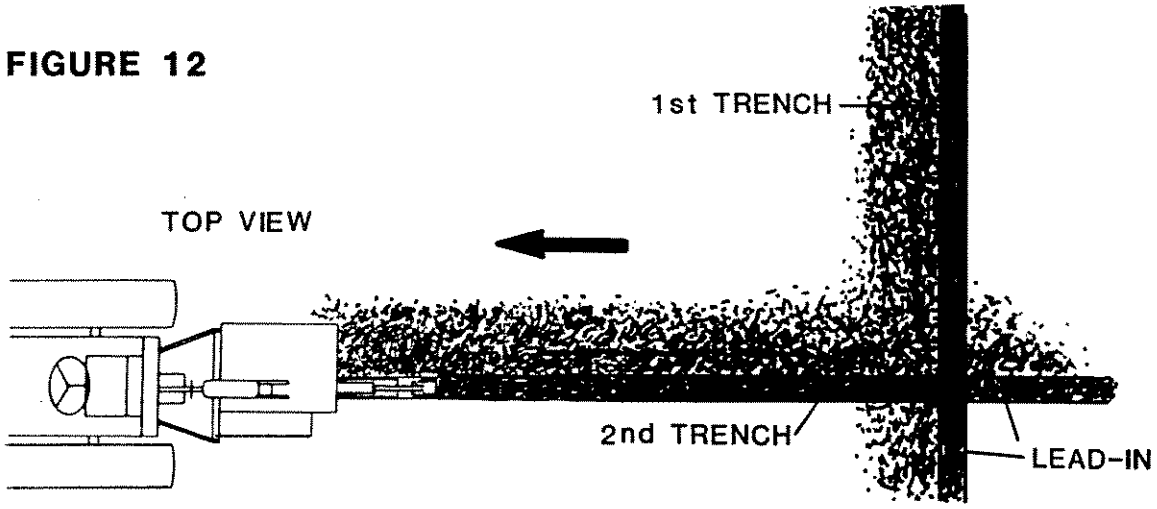
FIGURE 11



MAKING SHARP TURNS

To make sharp turns and 90° angles you will have to dig two trenches. Dig the first trench as you normally would. Then reposition the unit and dig the second trench at the appropriate angle. Be sure to take into account the extra lead-in space needed for the trencher to get down to the desired trench depth. See Figure 12

FIGURE 12



RECOMMENDED DIGGING ANGLES

A 90° digging angle is recommended for use in rock and frost conditions, and when trenching sharp corners. The 90° angle reduces excessive side pressure on the boom and digging chain when trenching corners.

A 60°-65° digging angle is recommended for normal trenching. At this angle there will be less carryover, and a cleaner trench bottom than can be maintained at a 90° angle.

TRENCHING WITHOUT THE CRUMBER BAR/PERSONAL RESTRAINT BAR

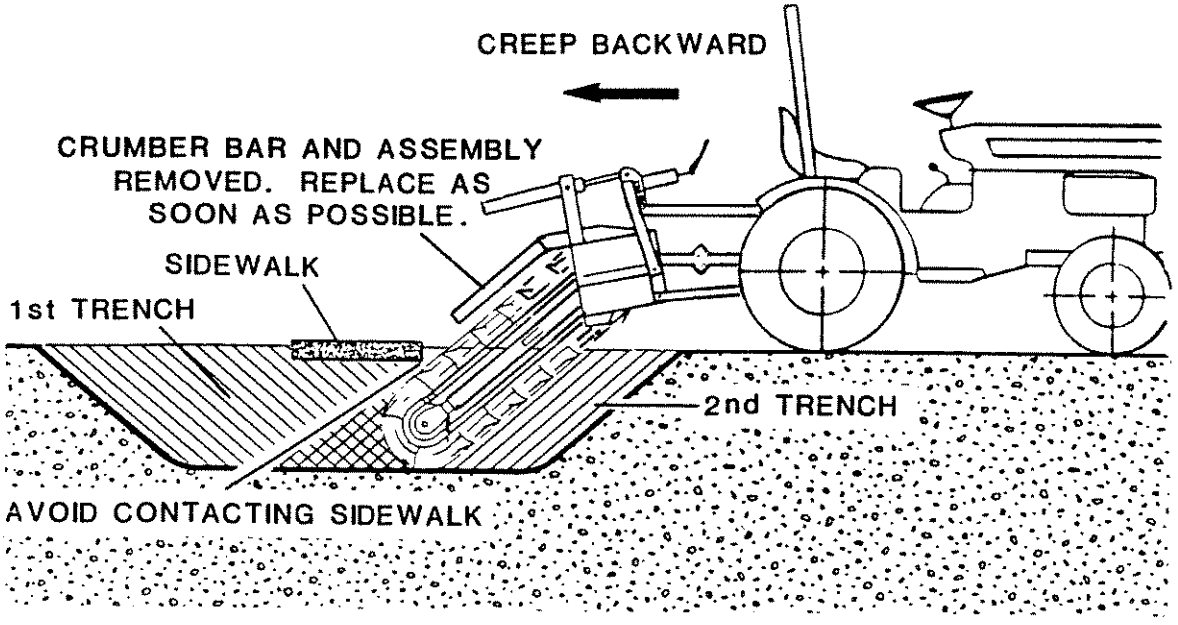
WARNING! The crumber bar/personal restraint bar and crumber assembly are there for a reason, YOUR SAFETY! There are a few instances however where removal may be necessary. In these cases operate with extreme caution. Reinstall the crumber bar/ personal restraint bar and crumber assembly as soon as possible.

You can use your trencher to dig under obstacles such as sidewalks. To do so, remove the crumber/bar personal restraint bar and crumber assembly and start your trench as before within a foot of the sidewalk. With the crumber bar/ personal restraint bar removed you can start the trench vertically without any lead-in space.

When the desired depth has been reached, tilt the trencher at 60° angle while digging, then creep the tractor backward and trench under the sidewalk. Be carefull not to contact the edge of the sidewalk with the digging teeth.

After you have gone as far as you can without contacting the sidewalk, drive the tractor forward to clear the sidewalk and remove the trencher from the trench. Line up the unit on the other side of the walk and continue to trench as described above until the two trenches are connected. See Figure 13

FIGURE 13



Reinstall the crumber bar/personal restraint bar and crumber assembly immediately. Some spoil will be left in the trench since the crumber was removed during the operation.

ENDING A TRENCH

When you have dug your trench, remember that the trencher boom is at an angle, and that you must continue trenching until the end of the boom has dug past the proposed end of the trench. Once the end of the trench has been dug, keep the trencher running and lift the unit clear of the trench. When the trencher has cleared the trench, disengage the PTO to stop the trencher. Drive the tractor away from the trench.

OPERATING INSTRUCTIONS

OPERATING TECHNIQUES
3-POINT HITCH TRENCHERS

TRANSPORTING THE TRENCHER

When transporting the trencher, remember to keep the trencher as low to the ground as is practical. The lower the trencher rides, the more stable the tractor will be. You do not want the trencher so low that the digging teeth touch ground in rough terrain. Shut off the trencher before moving it away from the trench. Never transport the trencher around the job site or anywhere else while the digging chain is moving.

TRENCHER PEFORMANCE

Trencher performance is related to how well it's maintained, digging tooth wear, and type and size of digging chain, crumber boom and shoe used. For more information on proper maintenance and chain wear see Section L. For information on chain, sprocket, boom, and crumber options see Sections I and J. If problems arise see "Trouble Shooting" Section N.

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GENERAL INFORMATION

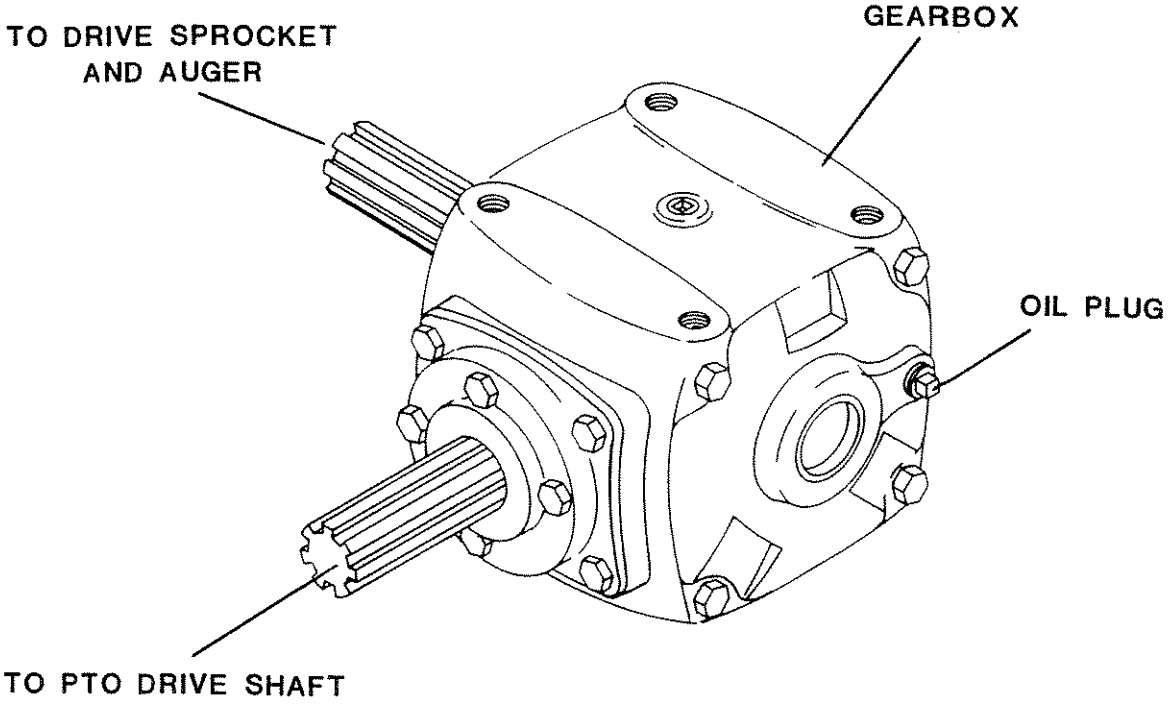
Economical and efficient operation of any machine is dependent upon regular and proper lubrication of all moving parts with a quality lubricant. Neglect leads to reduced efficiency, heavy draft, wear, breakdown, and needless replacement parts.

All parts provided with grease fittings should be lubricated as indicated. If any grease fittings are missing, replace them immediately. Clean all fittings thoroughly before using grease gun.

IMPORTANT: Avoid excessive greasing. Dirt collects on exposed grease and greatly increases wear. After greasing, wipe off excessive grease from fittings.

TRENCHER GEARBOX

The oil level in the gearbox should be check once a week. The side sheild will have to be removed first. Then with the gearbox sitting level, remove the square headed oil plug as shown. The oil level should be up to the plug threads in the casting. Fill with 90 weight transmission oil (SAE 90) as needed. Reinstall the plug and sheild when finished.

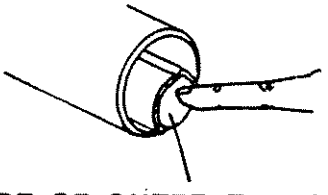


AUGER SHAFT BEARING

Trenchers built before serial number 6K189 have a lifetime lubricated bearing at the end of the auger shaft that requires no additional lubricating. Trenchers from serial number 6K189 on have a greasable bearing that requires greasing every 40 hours of operation. Grease the bearing by use of the zerk in the casting.

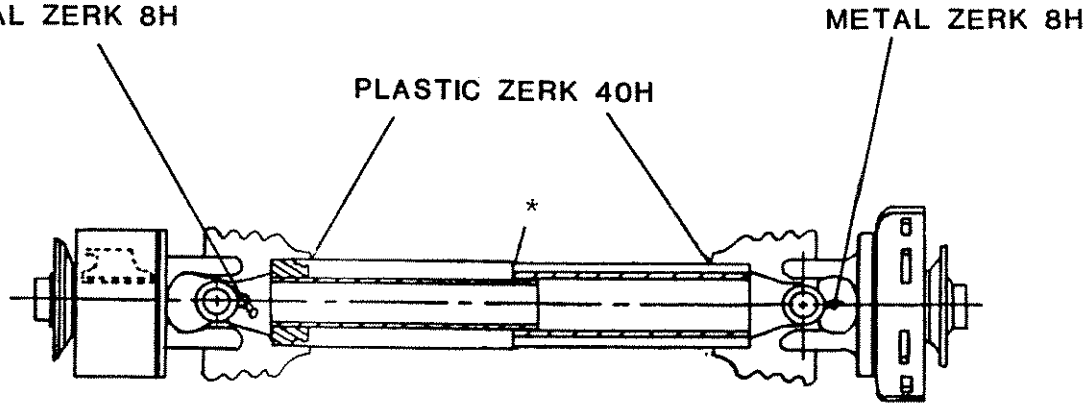
PTO DRIVE SHAFT

The PTO drive shaft should be greased as shown below. Grease P.T.O. drive shaft before putting it into operation.



GREASE INSIDE OF OUTER TELESCOPING TUBE
EVERY 20 HOURS

(20H) H=HOURS

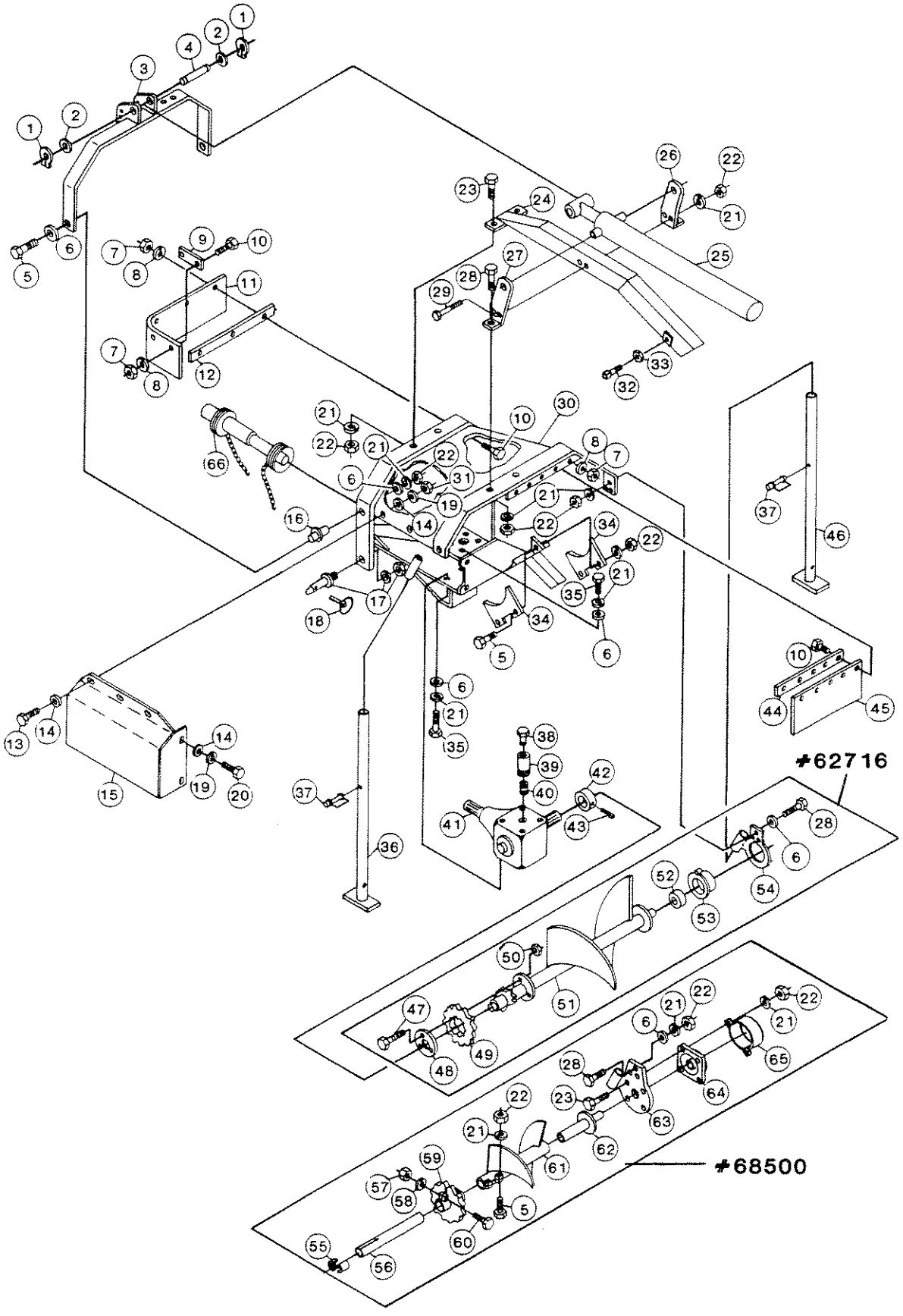


* When used in winter the inside of the outer plastic tube must be greased to prevent it from freezing solid.

The previously mentioned areas are the only ones that require lubrication. No lubrication is needed on any other part of the trencher. Boom assemblies do not require any lubricating. DO NOT lubricate the digging chain. Lubricating the chain will only cause dirt to collect on the chain resulting in increased chain wear.

TRENCHER ASSEMBLY

605 TRENCHER
ASSEMBLY #62716 & #68500



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TRENCHER ASSEMBLY

605 TRENCHER
ASSEMBLY #62716 & #68500

NO.	REQ'D	PART NO.	DESCRIPTION
1	2	6612	1.00" Snap Ring
2	2	57462	1.00" Trust Washer
3	1	62699	Linkage
4	1	57459	Pin Cylinder
5	6	1095	.50" UNC X 2.75" Capscrew
6	15	1516	.50" Flat Washer
7	10	1225	.31" UNC Nut
8	10	1502	.31" Lock Washer
9	1	62711	Strip Clamp
10	10	1022	.31" UNC X 1.00" Capscrew
11	1	62594	Front Rubber Shield
12	1	62712	Strip Clamp
13	3	1043	.38" UNC X 1.00" Capscrew
14	8	1514	.38" Flat Washer
15	1	62701	Shield
16	2	62610	Pivot Pin
17	2	57174	Cat. 1 Hitch Pin
18	2	57496	Hitch Pin
19	5	1503	.38" Lock Washer
20	2	1042	.38" UNC X .75" Capscrew
21	27	1505	.50" Lock Washer
22	19	1228	.50" UNC Nut
23	2	1092	.50" UNC X 2.00" Capscrew
24	1	62599	Crumber Mtg.
25	1	62613	Pivot Cylinder Assy.
26	1	62684	Cylinder Mtg. Plate, Right
27	1	62685	Cylinder Mtg. Plate, Left
28	5	1090	.50" UNC X 1.50" Capscrew
29	2	1100	.50" UNC X 4.00" Capscrew
30	1	62709	Mainframe
31	3	1226	.38" UNC Nut
32	2	1769	.50" X 1.00" UNC Sq. Head Set Screw
33	2	1242	.50" UNC Jam Nut
34	2	62682	Chain Guide
35	8	1089	.50" UNC X 1.25" Capscrew
36	1	62704	Left Stand
37	2	52569	Snapper Pin
38	1	58326	.38" Breather Plug
39	1	3388	.38" Coupling
40	1	3041	.38" X 2.00" Nipple

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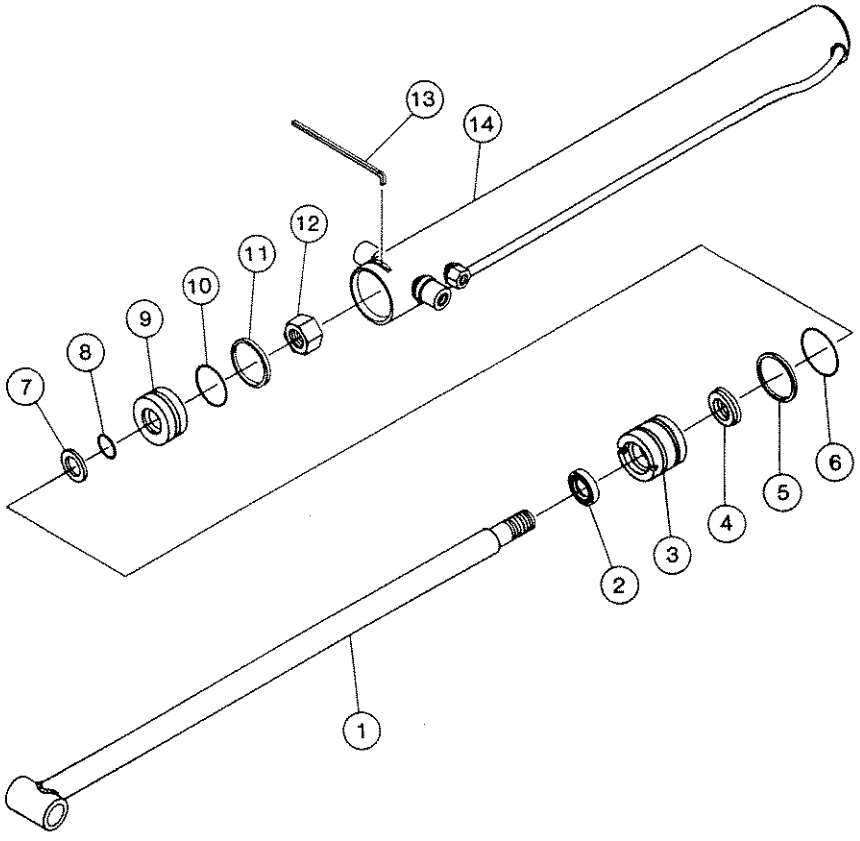
TRENCHER ASSEMBLY

605 TRENCHER
ASSEMBLY #62716 & #68500

NO.	REQ'D	PART NO.	DESCRIPTION
41	1	62676	Gear Box Assy.
42	1	62298	Ring, Dirt Shield
43	1	1575	Set Screw
44	1	62713	Strip Clamp
45	1	62584	Rubber Rear Shield
46	1	62703	Right Stand
47	3	1046	.38" UNC X 1.75" Hex Capscrew
48	1	62692	Sprocket Clamp
49	1	62686	1.654" Pitch Drive Sprocket
50	3	1536	.38" UNC Nylock Nut
51	1	62603	Headshaft Auger
52	1	8085	Headshaft Bearing
53	1	62691	Bearing Hub
54	1	62719	Hanger
55	1	67571	Hub
56	1	67570	Shaft
57	2	1230	.62" UNC Nut
58	2	1506	.62" Lock Washer
59	1	53282	14 Tooth Drive Sprocket 1.654" Pitch
	1	53975	12 Tooth Drive Sprocket 2.00" Pitch
60	2	1118	.62" UNC X 2.50" Capscrew
61	1	64058	Auger
62	1	67787	Shaft
63	1	68647	Bearing Plate Hanger
64	1	62308	Bearing Assy.
65	1	62415	Cap
66	1	Varies	P.T.O. Shaft Assy.

TRENCHER ASSEMBLY

LIFT CYLINDER
ASSEMBLY #62613



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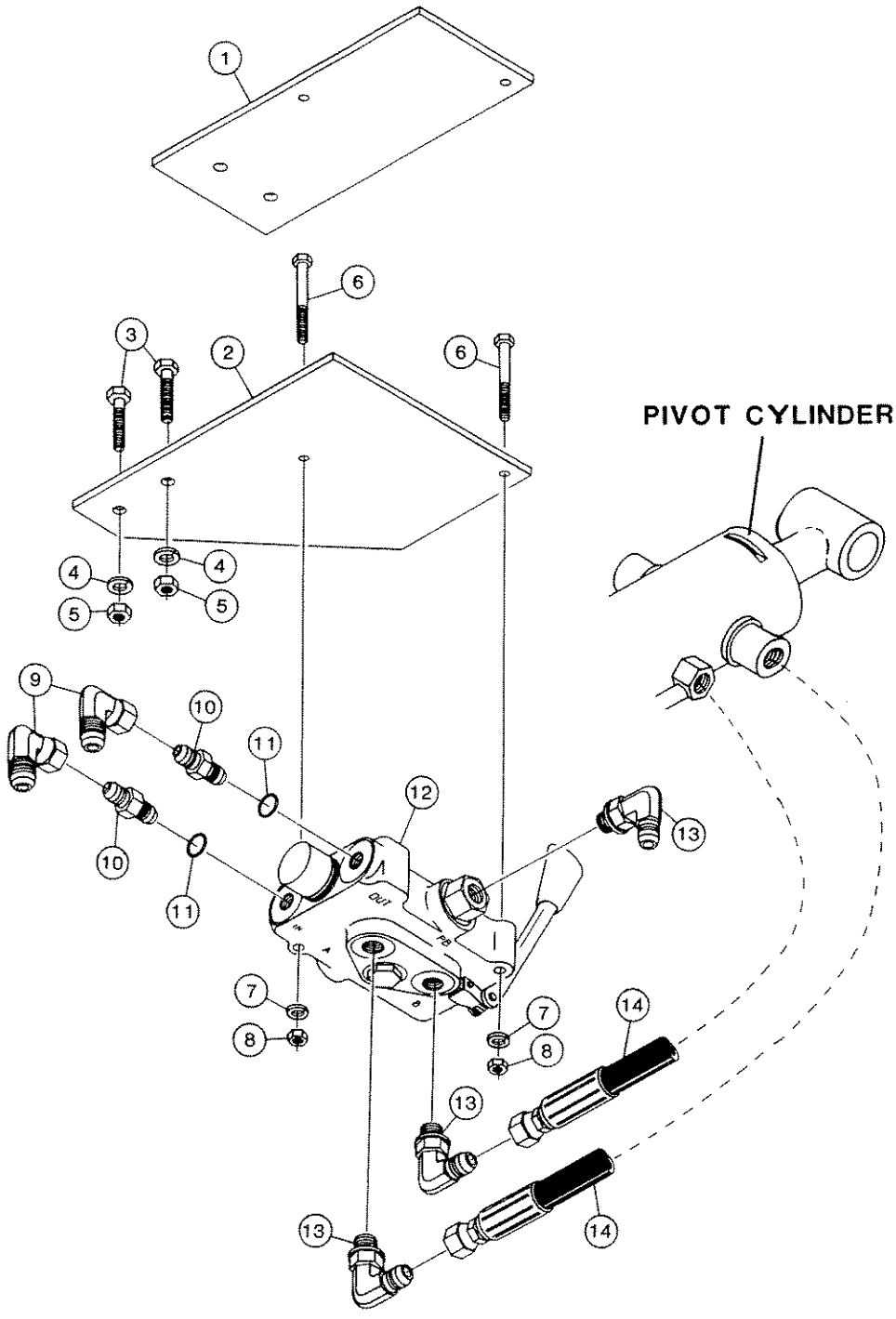
NO.	REQ'D	PART NO.	DESCRIPTION
1	1	62615	Cylinder Rod
2	1	4981*	Rod Wiper
3	1	64891	Cylinder Gland
4	1	45262	Cylinder Rod Seal
5	1	4634*	Back-Up Washer
6	1	4633*	O-Ring
7	1	52644	Washer
8	1	4635*	O-Ring
9	1	6992	Piston
10	1	4637*	O-Ring
11	1	4636*	Teflon Piston Ring
12	1	1482	Hex Nut
13	1	7164*	Gland Retainer Rod/Ring
14	1	62618	Cylinder Tube

NOTE: Seal Kit #45260 includes all parts marked with an asterisk (*). Parts are not sold separately.

TRENCHER ASSEMBLY

CONTROL VALVE ASSEMBLY #2116



NOTE: Pivot cylinder is not included in this assembly but is shown only for the purpose of hose routing.

TRENCHER ASSEMBLY

CONTROL VALVE
ASSEMBLY #2116

NO.	REQ'D	PART NO.	DESCRIPTION
1	1	62816 (1)	Valve Mounting Plate
2	1	62687	Valve Mounting Plate
3	2	1023	.31" UNC X 1.25" Capscrew
4	2	1502	.31" Lock Washer
5	2	1225	.31" UNC Hex Nut
6	2	1007	.25" UNC X 2.00" Capscrew
7	2	1501	.25" Lock Washer
8	2	1224	.25" UNC Hex Nut
9	2	3430	90° Street Elbow 6JIC
10	2	3352	Straight Adapter 6MJ-6MJ
11	2	3373	O-Ring
12	1	62090	Valve
13	3	3434	90° SAE O-Ring Adapter
14	2	35613	Hose .25" X 36" (SAE 100R1-1Wire) 4MB-6FJX

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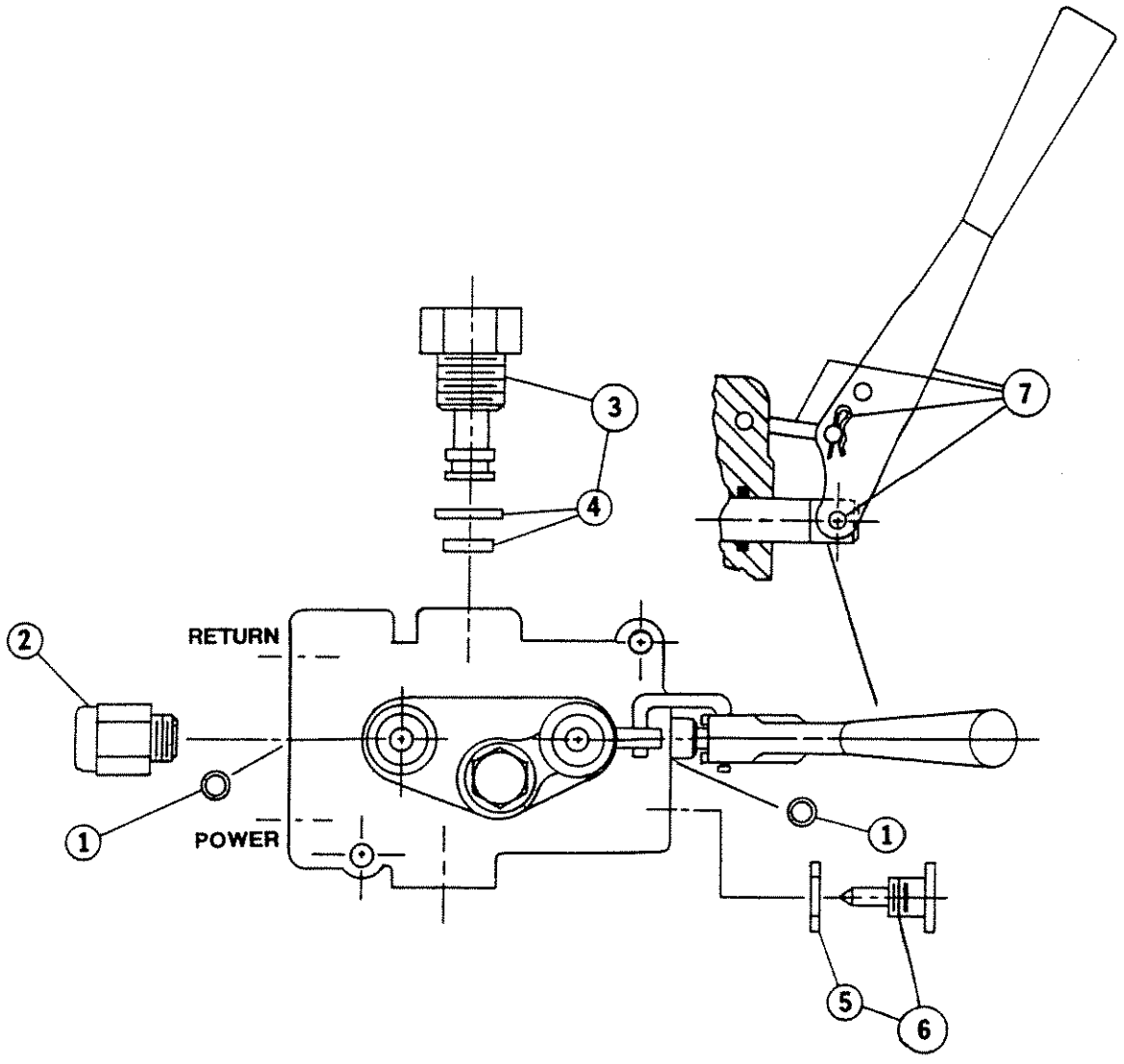
(1) Valve Mounting Plate #62816 Has Been Replaced By Valve Mounting Plate #62687

TRENCHER ASSEMBLY

CONTROL VALVE
ASSEMBLY #62090



NO.	REQ'D	PART NO.	DESCRIPTION
1	1	45235	Spool Seal Kit
2	1	45230	Spring Center Cover Assy.
3	1	45231	Power Beyond Plug Assy.
4	1	45236	Seal Kit
5	1	45232	Seal
6	1	45234	Plug Assy.
7	1	45233	Handle Assy.

TRENCHER ASSEMBLY

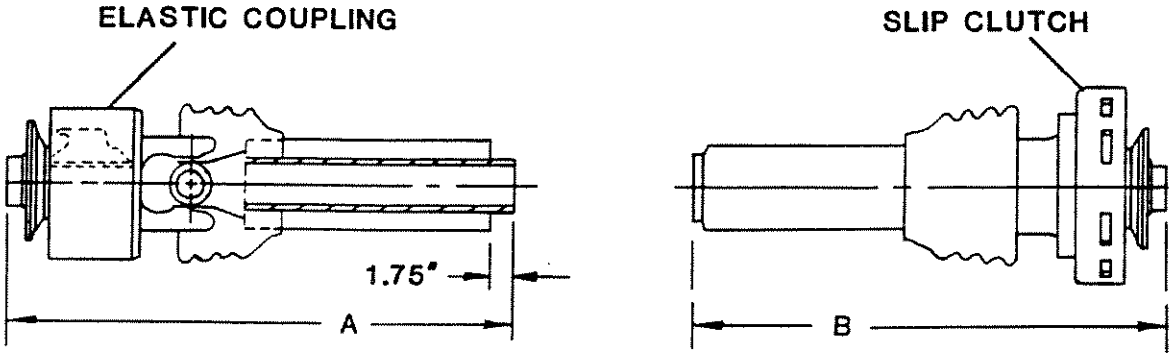
PTO DRIVE SHAFT LENGTHS

GENERAL INFORMATION

Your trencher should have been equipped with a PTO drive shaft that transfers power from the tractor PTO to the trencher gear box. The basic shaft may be ordered from the factory under part #62320. The PTO drive shaft you originally received is a two piece shaft that has had both sections cut down in size to fit your particular application. These cut shafts are then given new part numbers.

The following table is provided for your convenience. It gives you the part number for the correct pre-cut shaft for your application. It also gives you the finished cut dimensions of each shaft so you can cut down a basic shaft yourself, or check your existing shaft to see if it is the correct size.

TRACTOR END **TRENCHER GEAR BOX END**

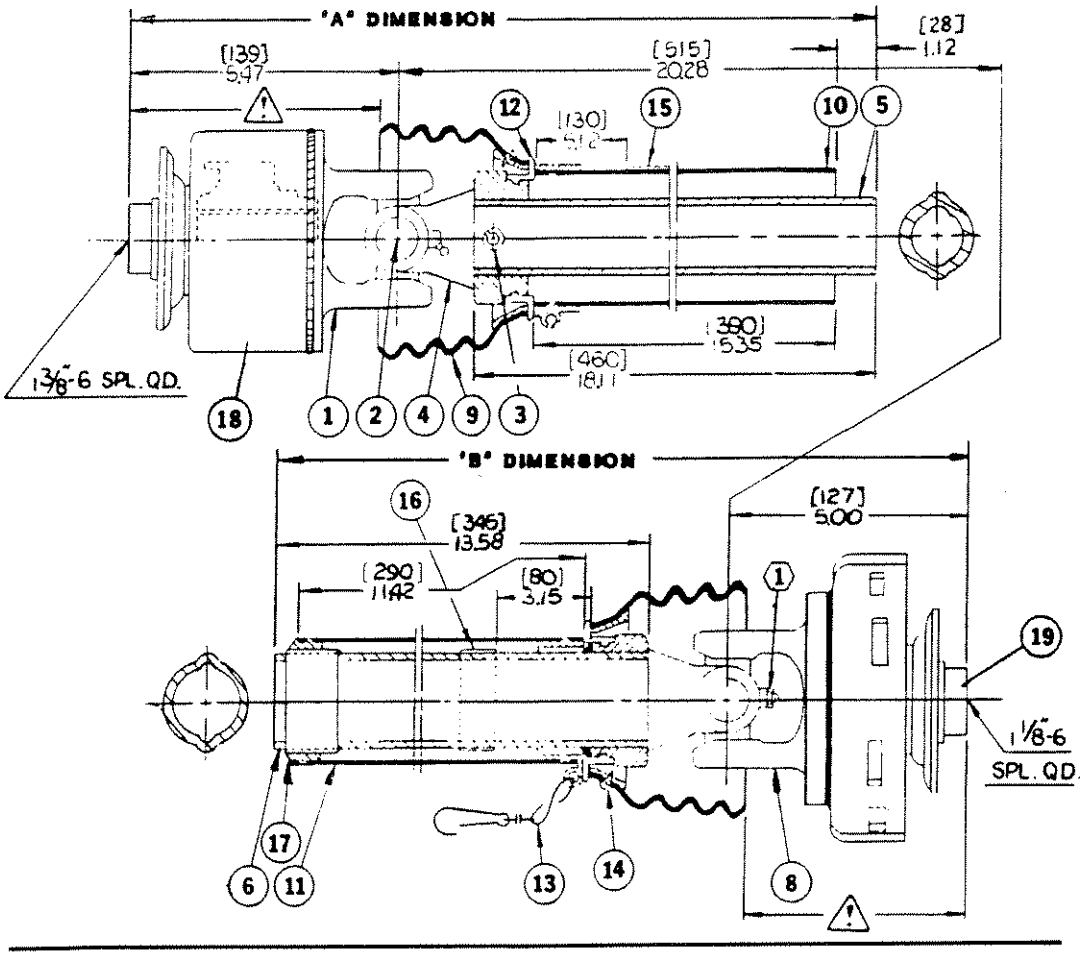


INNER DRIVE SHAFT **OUTER DRIVE SHAFT**

TRACTOR	CUT SHAFT NO.	PTO LENGTH INNER DRIVE SHAFT DIMENSION "A"	PTO LENGTH OUTER DRIVE SHAFT DIMENSION "B"
Bolen Hl704 Hydro	64383	19.62"	17.62"
Deutz 5215	64383	19.62"	17.62"
Ford 1110/1210	62320	25.13" (uncut)	20.25" (uncut)
IH 234 Hydro	64383	19.62"	17.62"
John Deere 655/755/855	65530	22.00"	19.50"
Kubota B6200/B7100/B7200	63041	19.38"	17.38"
Kubota B8200/B9200	62813	22.88"	20.38"
MF 1010	64383	19.62"	17.62"
Mitsubishi 180	64383	19.62"	17.62"

TRENCHER ASSEMBLY

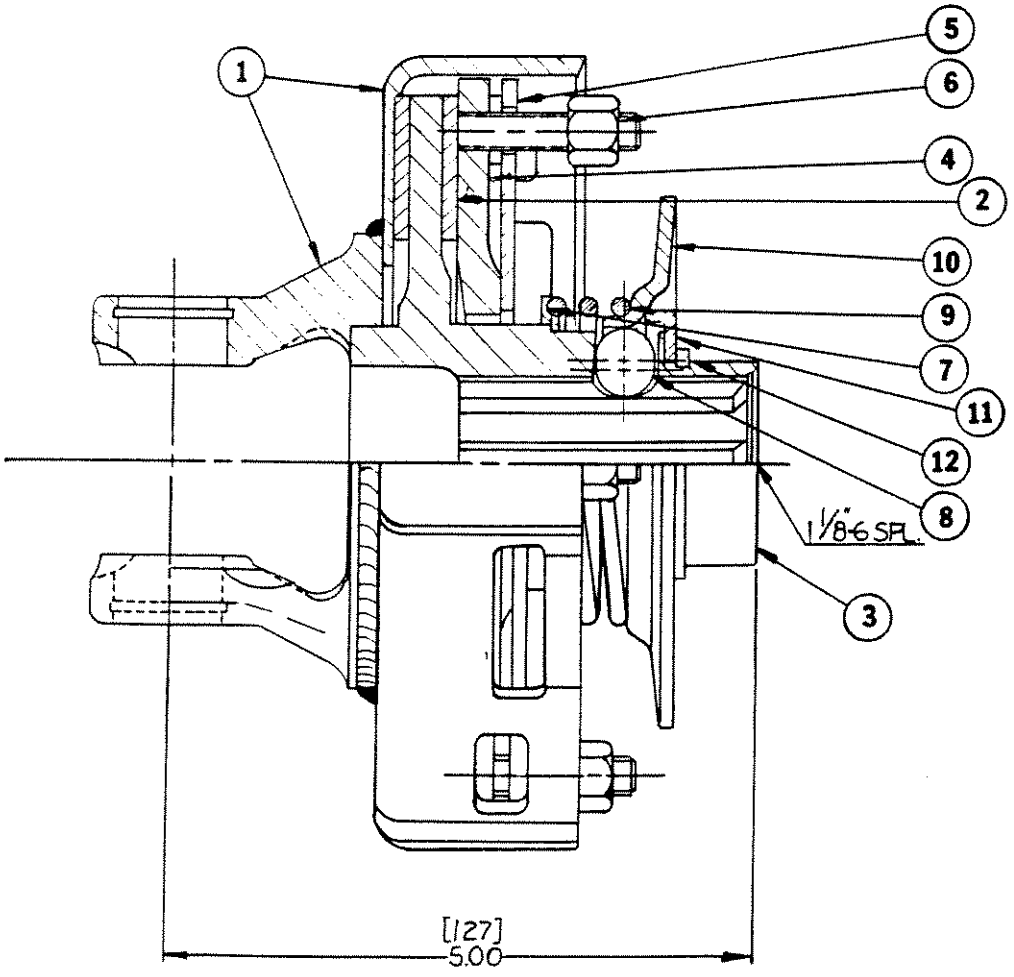
P.T.O. DRIVE ASSEMBLY
ASSEMBLY #62320



NO.	REQ'D	PART NO.	DESCRIPTION
1	1	62722	Elastic Coupling
2	2	62723	Cross & Bearing Kit
3	1	62724	Spring Pin
4	1	62725	Inboard Yoke
5	1	62726	Inner Profile
6	1	62727	Profile, Sleeve, Inboard Yoke
8	1	62728	Friction Clutch
9	2	62729	Shield Cone
10	1	62730	Out Shield Tube Ovl.
11	1	62731	Inn. Shield Tube Rnd.
12	2	61675	Bearing Ring SC15
13	2	61679	Safety Chain
14	2	62732	Screw In Item 9
15	1	4286	Decal Out. - In Item 10
16	1	4285	Decal Inn - In Item 6
17	1	62733	Support Bearing
18	1	63505	PTO Drive - Tractor Half
19	1	63506	PTO Drive - Implement Half

TRENCHER ASSEMBLY

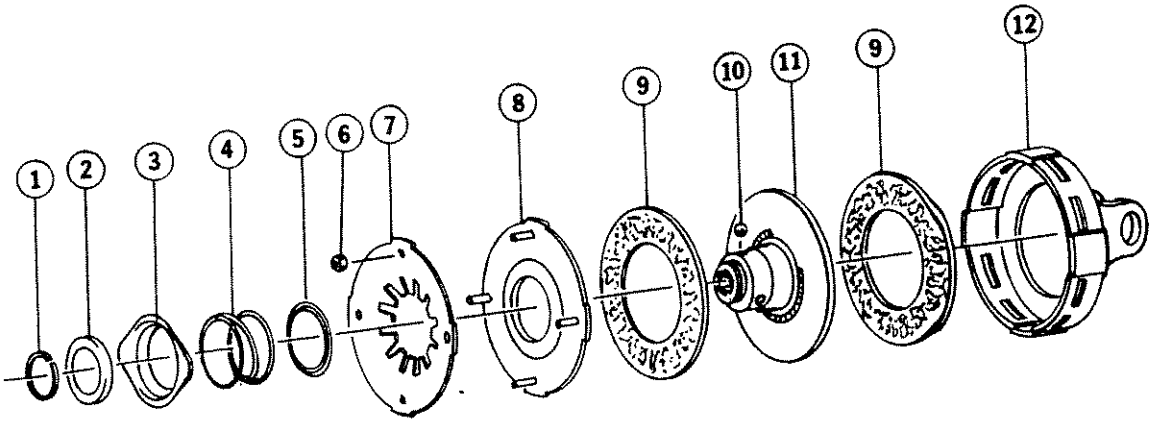
FRICTION CLUTCH
ASSEMBLY #62728



NO.	REQ'D	PART NO.	DESCRIPTION
1	1	62734	Clutch Housing
2	2	61651	Friction Disk
3	1	62735	Hub 1 1/8" - 6 Spl.
4	1	62736	Thrust Plate
5	1	61654	Belleville Spring
6	4	2556	M8 Hex Nut
7	1	61655	Back-Up Ring
8	3	62737	Lock Roller
9	1	61657	Compression Spring
10	1	61658	Lock Collar
11	1	61659	Flanged Ring
12	1	61660	Snap Ring

TRENCHER ASSEMBLY

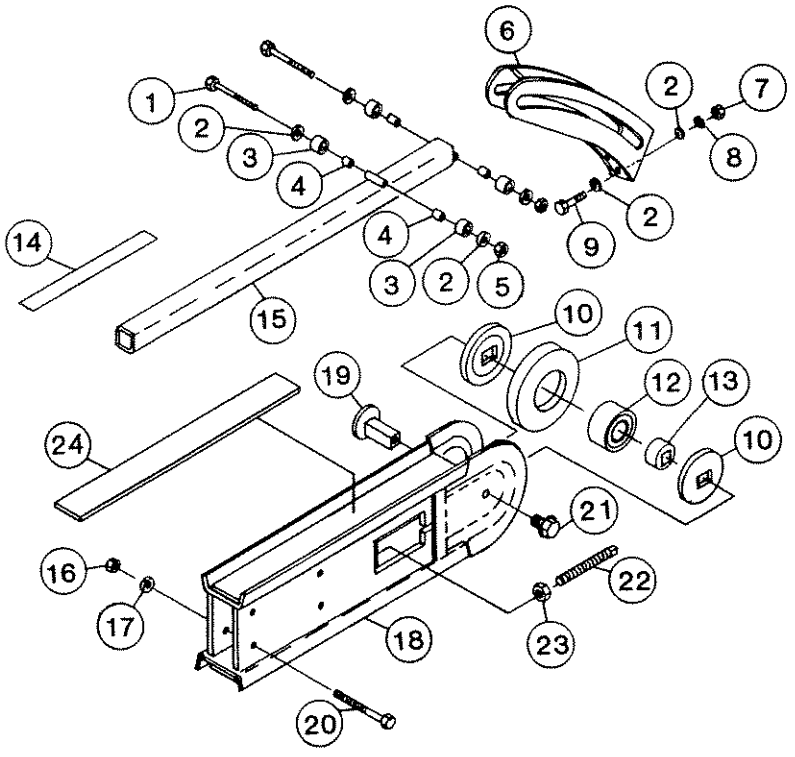
FRICTION CLUTCH
ASSEMBLY #62728



NO.	REQ'D	PART NO.	DESCRIPTION
1	1	61660	Snap Ring
2	1	61659	Flanged Ring
3	1	61658	Lock Collar
4	1	61657	Compression Spring
5	1	61655	Back-Up Ring
6	4	2556	M8 Hex Nut
7	1	61654	Belleville Spring
8	1	62736	Thrust Plate
9	2	61651	Friction Disk
10	3	62737	Lock Roller
11	1	62735	Hub 1 1/8" - 6 Spl.
12	1	62734	Clutch Housing

TRENCHER ASSEMBLY

24" BOOM AND CRUMBER ASSEMBLY #65604



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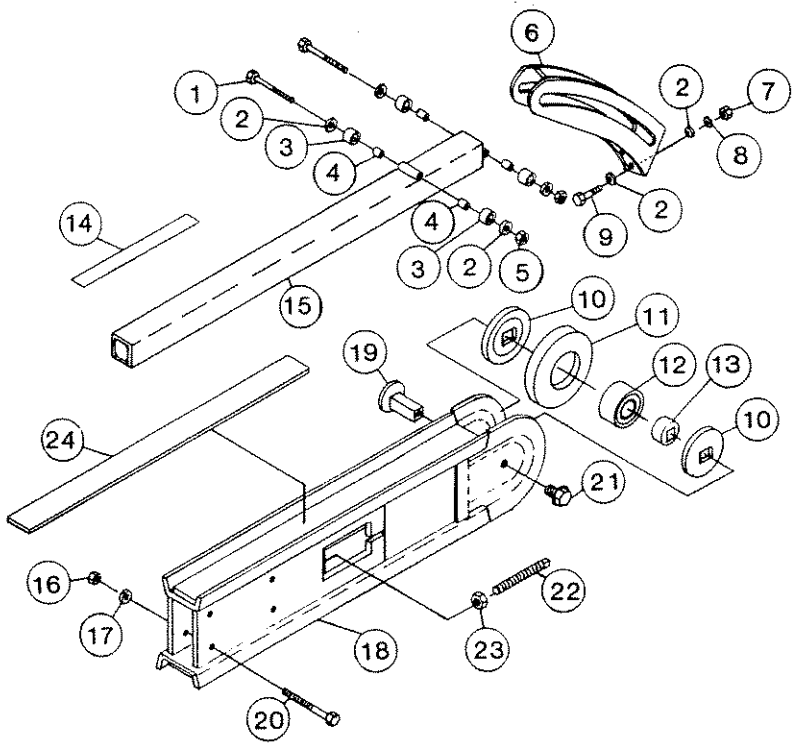
NO.	REQ'D	PART NO.	DESCRIPTION
1	2	1054	.38" UNC X 3.75" Hex Capscrew
2	8	1525	.38" SAE Flat Washer
3	4	53038	Crumber Roller
4	4	53039	Crumber Roller Bushing
5	2	1536	.38" UNC Nylock Nut
6	1	53087	Crumber End
7	2	1226	.38" UNC Hex Nut
8	2	1503	.38" Lock Washer
9	2	1043	.38" UNC X 1.00" Hex Capscrew
10	2	54066	Idler Spacer
11	1	62718	Idler Wheel
12	1	8085	Idler Bearing
13	1	53988	Idler Bearing Hub
14	1	4105	Decal-Danger Stand Clear
15	1	65614	24" Crumber Bar/Personal Restraint Bar
16	4	1228	.50" UNC Hex Nut
17	4	1505	.50" Lock Washer
18	1	65602	24" Boom With Wear Strips
19	1	53132	1.12" Sq. Pin
20	4	1096	.50" UNC X 3.00" Hex Capscrew
21	1	1548	.75" UNC X 1.25" Nylock Capscrew
22	1	1766	.75" UNC X 4.50" Set Screw
23	1	1231	.75" UNC Hex Nut
24	2	65606	Replacement Wear Strip

TRENCHER ASSEMBLY

30" BOOM AND CRUMBER ASSEMBLY #65605



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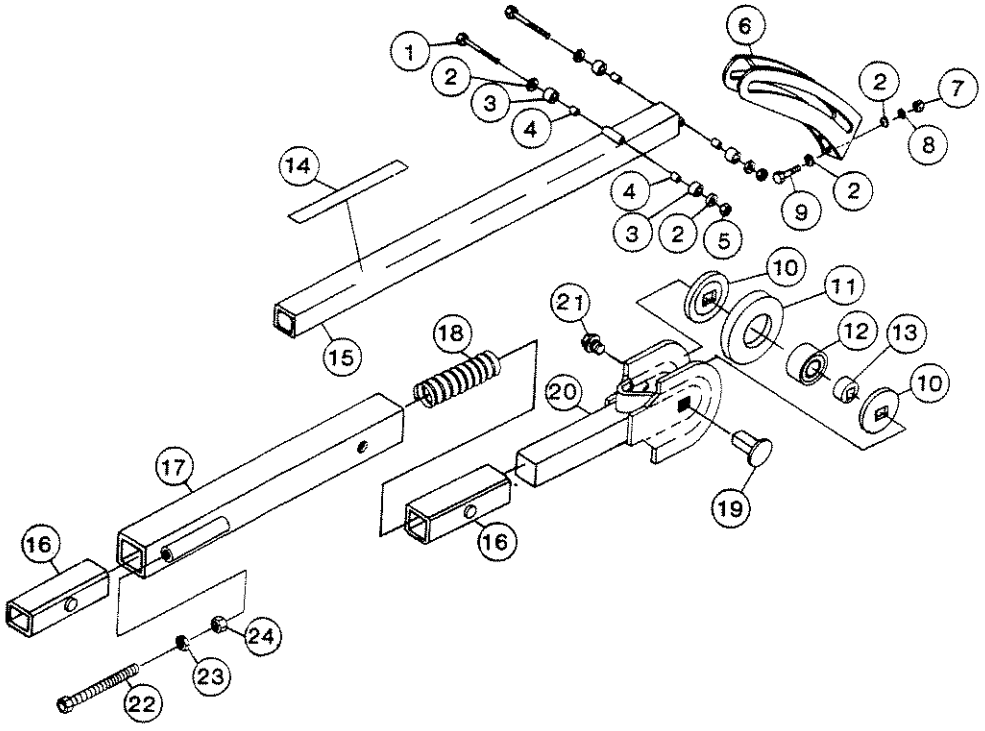
NO.	REQ'D	PART NO.	DESCRIPTION
1	2	1054	.38" UNC X 3.75" Hex Capscrew
2	8	1525	.38" SAE Flat Washer
3	4	53038	Crumber Roller
4	4	53039	Crumber Roller Bushing
5	2	1536	.38" UNC Nylock Nut
6	1	53087	Crumber End
7	2	1226	.38" UNC Hex Nut
8	2	1503	.38" Lock Washer
9	2	1043	.38" UNC X 1.00" Hex Capscrew
10	2	54066	Idler Spacer
11	1	62718	Idler Wheel
12	1	8085	Idler Bearing
13	1	53988	Idler Bearing Hub
14	1	4105	Decal-Danger Stand Clear
15	1	53070	30" Crumber Bar/Personal Restraint Bar
16	4	1228	.50" UNC Hex Nut
17	4	1505	.50" Lock Washer
18	1	66403	30" Boom With Wear Strip
19	1	53132	1.12" Sq. Pin
20	4	1096	.50" UNC X 3.00" Hex Capscrew
21	1	1548	.75" UNC X 1.25" Nylock Capscrew
22	1	1766	.75" UNC X 4.50" Set Screw
23	1	1231	.75" UNC Hex Nut
24	2	66407	Replacement Wear Strip

TRENCHER ASSEMBLY

36" BOOM AND CRUMBER
ASSEMBLY #62714



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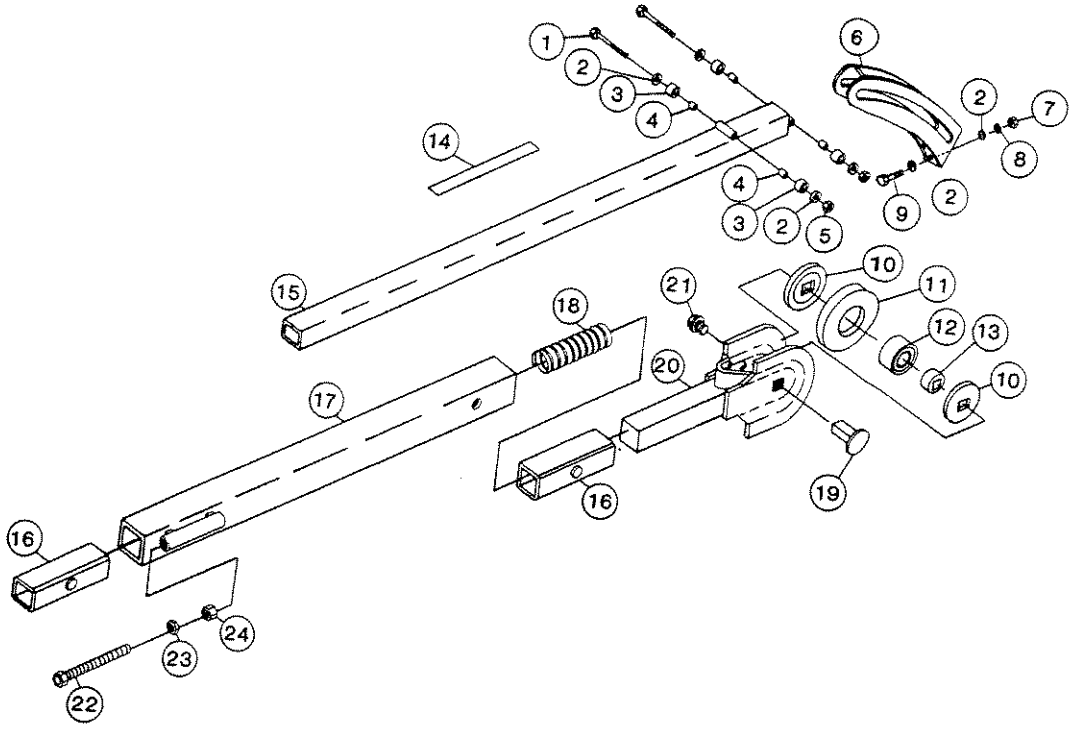
NO.	REQ'D	PART NO.	DESCRIPTION
1	2	1054	.38" UNC X 3.75" Hex Capscrew
2	8	1525	.38" SAE Flat Washer
3	4	53038	Crumber Roller
4	4	53039	Crumber Roller Bushing
5	2	1536	.38" UNC Nylock Nut
6	1	53087	Crumber End
7	2	1226	.38" UNC Hex Nut
8	2	1503	.38" Lock Washer
9	2	1043	.38" UNC X 1.00" Hex Capscrew
10	2	54066	Idler Spacer
11	1	62718	Idler Wheel
12	1	8085	Idler Bearing
13	1	53988	Idler Bearing Hub
14	1	4105	Decal-Danger Stand Clear
15	1	53069	36" Crumber Bar/Personal Restraint Bar
16	2	53138	Boom Bushing
17	1	62607	36" Boom
18	1	53188	Spring
19	1	53132	1.12" Sq. Pin
20	1	62717	Boom End
21	1	1548	.75" UNC X 1.25" Nylock Capscrew
22	2	62702	Adjusting Bolt
23	2	1245	.75" UNC Jam Nut
24	2	1231	.75" UNC Nut

TRENCHER ASSEMBLY

48" BOOM AND CRUMBER
ASSEMBLY #62715



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NO.	REQ'D	PART NO.	DESCRIPTION
1	2	1054	.38" UNC X 3.75" Hex Capscrew
2	8	1525	.38" SAE Flat Washer
3	4	53038	Crumber Roller
4	4	53039	Crumber Roller Bushing
5	2	1536	.38" UNC Nylock Nut
6	1	53087	Crumber End
7	2	1226	.38" UNC Hex Nut
8	2	1503	.38" Lock Washer
9	2	1043	.38" UNC X 1.00" Hex Capscrew
10	2	54066	Idler Spacer
11	1	62718	Idler Wheel
12	1	8085	Idler Bearing
13	1	53988	Idler Bearing Hub
14	1	4105	Decal-Danger Stand Clear
15	1	53068	48" Crumber Bar/Personal Restraint Bar
16	2	53138	Boom Bushing
17	1	62808	48" Boom
18	1	53188	Spring
19	1	53132	1.12" Sq. Pin
20	1	62717	Boom End
21	1	1548	.75" UNC X 1.25" Nylock Capscrew
22	2	62702	Adjusting Bolt
23	2	1245	.75" UNC Jam Nut
24	2	1231	.75" UNC Nut

DIGGING CHAIN OPTIONS

GENERAL INFORMATION

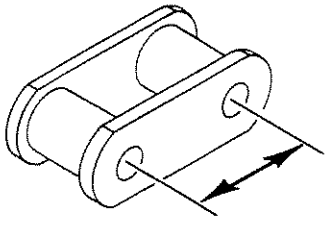
This section is devoted to digging chain options for your trencher. In it you will find a listing of all the chain options available. You will also find information on replacement parts, chain assembly, and chain conversion. These options will increase the flexability of your equipment, and make your trenching jobs easier.

There is some basic information about the trencher and it's digging components that you should know before you try to order any options. This information is given here for your convenience. With it you will be able to better understand the rest of this section.

CHAIN PITCH

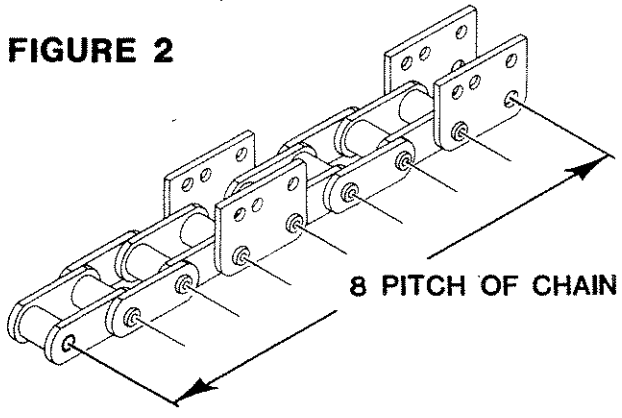
The digging chains may be divided into groups by pitch. The pitch of the chain is the distance between the centers of the holes in the chain links (See Figure 1). The word pitch can also be used to describe the length of the chain (See Figure 2).

FIGURE 1



DISTANCE BETWEEN HOLE CENTERS = PITCH

FIGURE 2



Chains of two different pitches are offered for your trencher. The lighter weight chains have a pitch of 1.654" and a tensil strength of 34,000 pounds. There is also a series of heavy weight chains with a tensil strength of 43,000 pounds and a pitch of 2.00".

There is one thing that you must understand about chain pitch. You can not intermix components of different pitches. You cannot substitute chain links of different pitches in a digging chain. Nor can you use a digging chain of one pitch, with a driver sprocket of a different pitch. Attempting to do so will cause the chain to "jump" off the sprocket continuously.

DIGGING CHAIN OPTIONS

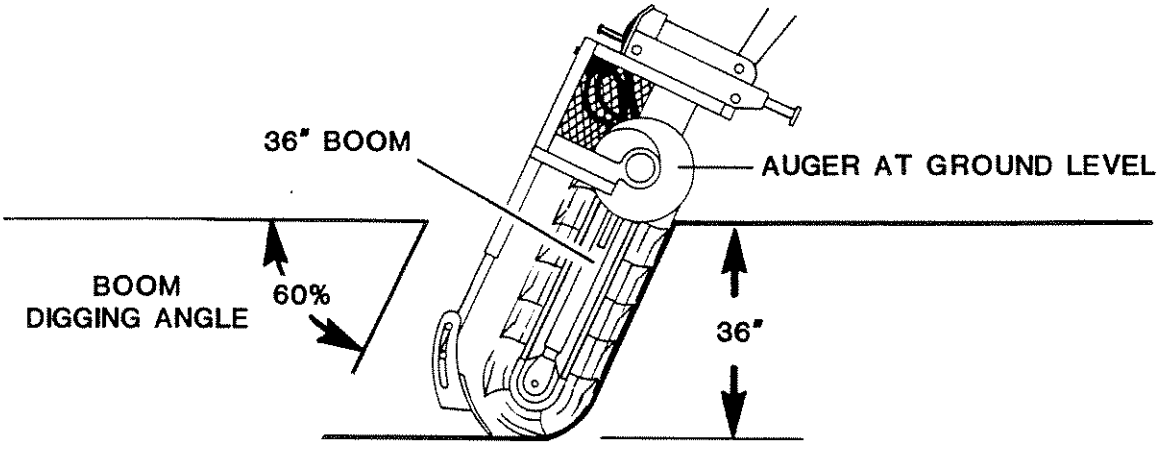
SPROCKET COMPATIBILITY

For ease of interchangeability, your trencher only has two elements that must match concerning pitch. The digging chain and the drive sprocket. As long as these match, you should have no problems with matching pitch. There are three different driver sprockets for your trencher. The old style sprocket of 1.654" pitch and 14 teeth is part number 62686. The new style 1.654" sprocket is number 53282. The third sprocket available is a 2.00" pitch with 12 teeth, part number 53975. The 2.00" pitch sprocket will interchange with the new style 1.654" sprocket (with the corresponding 2.00" pitch chain), but will not interchange with the old 1.654" pitch sprocket.

COMPONENT SIZE

The size of a digging component is based on the depth of the trench it will dig with the auger at ground level and a 60° boom digging angle (See Figure 3). For example a 36" boom is not necessarily 36" long. The 36" length means it will dig a trench 36" deep with the augers in their float position and at a 60° digging angle.

FIGURE 3

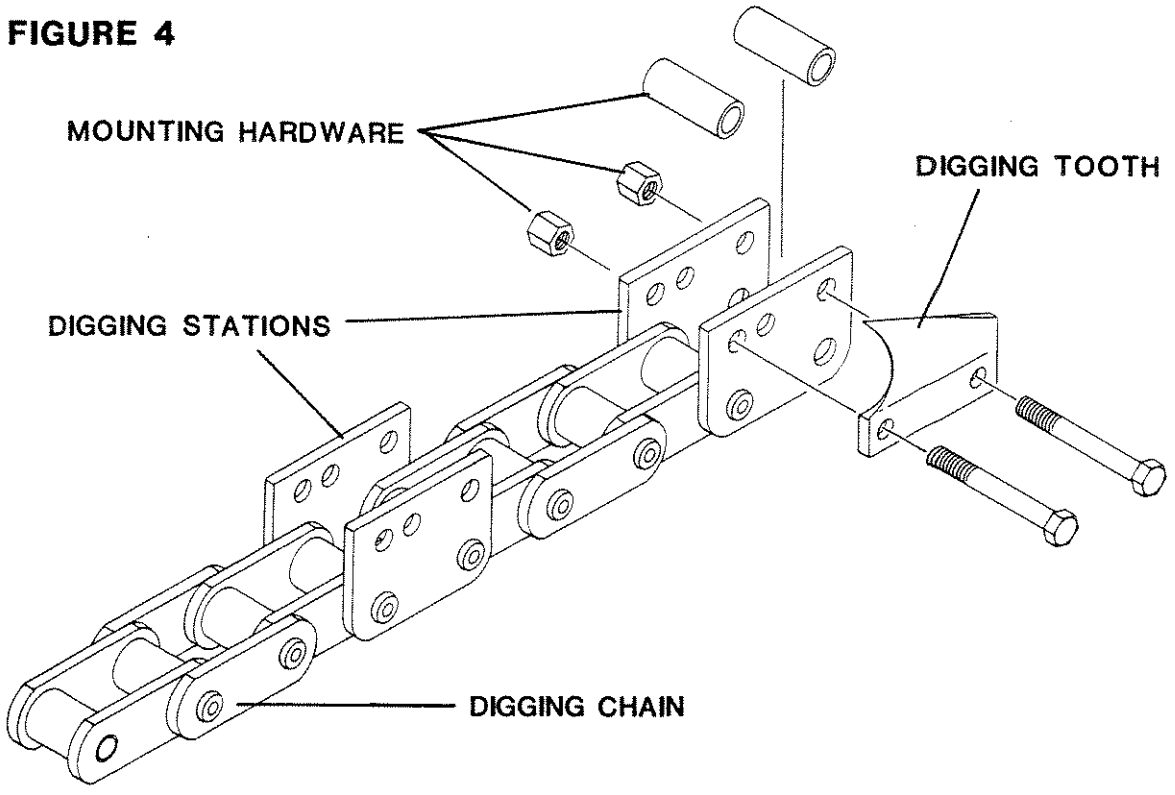


DIGGING STATIONS

Digging chains are made up of a series of individual links pinned together. Every forth link is a special "Digging Station" link. These links are designed so that the digging teeth can be attached to the basic chains (See Figure 4). Digging chains may be purchased in any length, with or without teeth. All chains, teeth, spacers and assorted digging hardware may be purchased seperately.

DIGGING CHAIN OPTIONS

FIGURE 4



This completes the basic information on digging chain options. The rest of this section contains specific information on digging chains and parts available, complete with part numbers. Again it may be noted that these options are designed to increase the flexability of your equipment and to make your trenching jobs easier. We offer them to better serve your trenching needs.

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DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING CHAIN ASSEMBLIES

GENERAL INFORMATION

This page contains a listing of all of the 1.654" pitch digging chain assemblies offered for your trencher. Each chain assembly comes with all necessary teeth and spacers already installed. Just thread the chain onto the trencher and fasten the two ends together with the pin and keeper pin included in the assembly. A crumber shoe of the appropriate width is also included in the chain assembly.

Before you order a new chain, be sure to check for compatibility with corresponding components. You may need to order more than just a chain assembly. You must use a digging boom of the same digging depth as the chain. The crumber bar/personal restraint bar must also be of the same digging depth. The digging sprocket must also be of the same pitch as the chain. All of these components must match for the trencher to function properly.

Bare 1.654" pitch digging chain (without teeth, spacers, or hardware) can be ordered in any desired length under the part number 53240. Just use this number and then specify the length desired in pitches (example, 50 pitches of chain would be needed for a 24" boom).

1.654" PITCH DIGGING CHAIN ASSEMBLIES

Complete chain assemblies. Includes chain with all teeth and spacers attached. Also includes appropriate width crumber shoe.

DESCRIPTION (boom used X trench width)	LENGTH OF CHAIN (in 1.654" pitches)	TENSIL STRENGTH	PART NO.
For 24" Boom 4¼" Wide	50 Pitch	34,000#	65612
For 24" Boom 6" Wide	50 Pitch	34,000#	65660
For 24" Boom 8" Wide	50 Pitch	34,000#	65721
For 30" Boom 4¼" Wide	58 Pitch	34,000#	65722
For 30" Boom 6" Wide	58 Pitch	34,000#	65723
For 30" Boom 8" Wide	58 Pitch	34,000#	65724
For 36" Boom 4¼" Wide	64 Pitch	34,000#	64270
For 36" Boom 6" Wide	64 Pitch	34,000#	62671
For 36" Boom 8" Wide	64 Pitch	34,000#	62812
For 48" Boom 4¼" Wide	80 Pitch	34,000#	64271
For 48" Boom 6" Wide	80 Pitch	34,000#	62811
For 48" Boom 8" Wide	80 Pitch	34,000#	64272

1.654" pitch chain (must be used with a 14 tooth, 1.654" pitch sprocket #53282 or #62686).

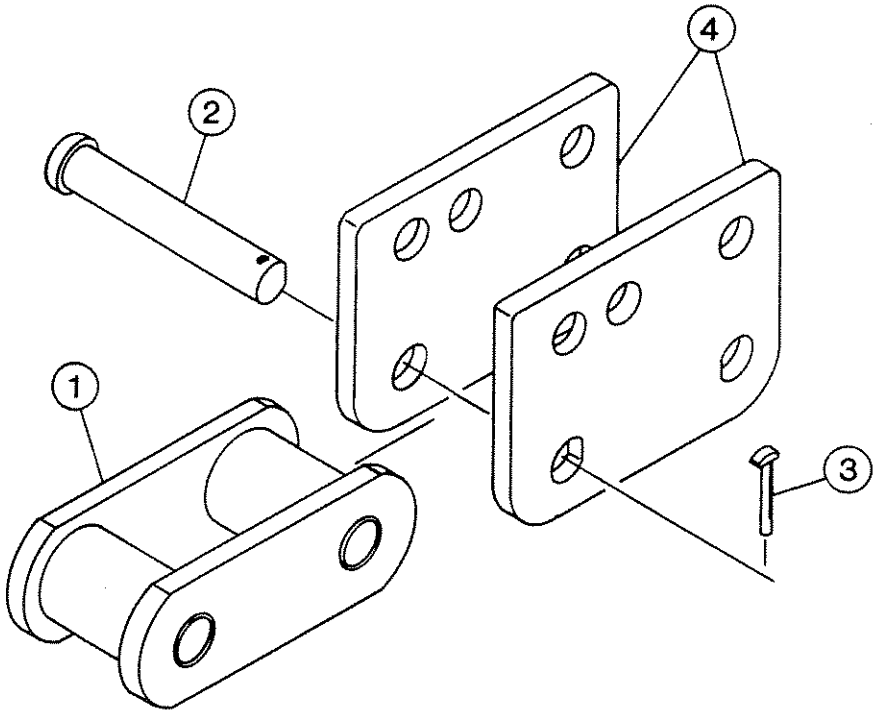
DIGGING CHAIN OPTIONS

1.654" PITCH CHAIN REPLACEMENT PARTS

GENERAL INFORMATION

You can purchase individual chain links and pins for your trencher. These can be used to repair a damaged chain, or lengthen and modify an existing chain. Below is a diagram of the chain's basic components with their descriptions and corresponding part numbers. Use these numbers when ordering. You can also order complete bare chain (without teeth and spacers) in any length desired. The chain is ordered under part number 53240 for 1.654" pitch. Just specify the length you want in pitches.

When pinning links of chain together, first tap the pin through the connector link with the perfectly round holes and then on through the inner link. Place the second connector link in position, you will note that the end of the pin has one side flattened. Rotate the pin until it's flat side lines up with the corresponding flat side of the connector link hole and tap the pin on through. Place the chain keeper pin into the hole at the end of the main pin and tap down tight. Finally, bend the end of the keeper pin over to secure it in place.



NO.	REQ'D	PART NO.	DESCRIPTION
1	Varies	54756	Inner Link
2	Varies	53820	Pin
3	Varies	53821	Chain Keepr Pin
4	Varies	54729	Connector Link Includes (2) Pins #53820 and (2) Chain Keeper Pins #53821

DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING TOOTH STATION SEQUENCE

GENERAL INFORMATION

Every fourth link on a digging chain is a special link called a digging station. These digging station links are designed so that digging teeth can be bolted onto them in a variety of configurations. It is the number and the make up of these different digging stations that make each chain unique.

The following tables show the number of digging stations there are in each available 1.654" pitch digging chain. The digging tooth make up of each digging station is given in code. The key to the code is located at the right side of the page. Thus these charts will tell you what kind of digging tooth arrangement is at each digging station on each digging chain assembly. The actual parts break down of each digging tooth arrangement is shown on the "Digging Tooth Station Break Down" diagrams located on the following page.

24" BOOM

TRENCH WIDTH — **DIGGING TOOTH STATIONS**

	1	2	3	4	5	6	7	8	9	10	11	12	13
4¼"	CR	4¼L	4¼R	4¼L	4¼R	CL	4¼R	4¼L	4¼R	4¼L	CR	4¼L	4¼R
6"	CR	6L	6R	6L	6R	CL	6R	6L	6R	6L	CR	6L	6R
8"	CR	6L	6R	8L	8R	CL	6R	6L	8R	8L	CR	8L	8R

DIGGING TOOTH STATION KEY

CR-CENTER CUTTER, RIGHT
CL-CENTER CUTTER, LEFT

4¼R-4¼" RIGHT STATION
4¼L-4¼" LEFT STATION

6R-6" RIGHT STATION
6L-6" LEFT STATION

8R-8" RIGHT STATION
8L-8" LEFT STATION

30" BOOM

TRENCH WIDTH — **DIGGING TOOTH STATIONS**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4¼"	CR	4¼L	4¼R	4¼L	4¼R	CL	4¼R	4¼L	4¼R	4¼L	CR	4¼L	4¼R	4¼L	4¼R
6"	CR	6L	6R	6L	6R	CL	6R	6L	6R	6L	CR	6L	6R	6L	6R
8"	CR	6L	6R	8L	8R	CL	6R	6L	8R	8L	CR	6L	6R	8L	8R

36" BOOM

TRENCH WIDTH — **DIGGING TOOTH STATIONS**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4¼"	CR	4¼L	4¼R	4¼L	4¼R	CL	4¼R	4¼L	4¼R	4¼L	CR	4¼L	4¼R	4¼L	4¼R	4¼L
6"	CR	6L	6R	6L	6R	CL	6R	6L	6R	6L	CR	6L	6R	6L	6R	6L
8"	CR	6L	6R	8L	8R	CL	6R	6L	8R	8L	CR	6L	6R	8L	8R	6L

48" BOOM

TRENCH WIDTH — **DIGGING TOOTH STATIONS**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
4¼"	CR	4¼L	4¼R	4¼L	4¼R	CL	4¼R	4¼L	4¼R	4¼L	CR	4¼L	4¼R	4¼L	4¼R	CL	4¼R	4¼L	4¼R	4¼L
6"	CR	6L	6R	6L	6R	CL	6R	6L	6R	6L	CR	6L	6R	6L	6R	CL	6R	6L	6R	6L
8"	CR	6L	6R	8L	8R	CL	6R	6L	8R	8L	CR	6L	6R	8L	8R	CL	6R	6L	8R	8L

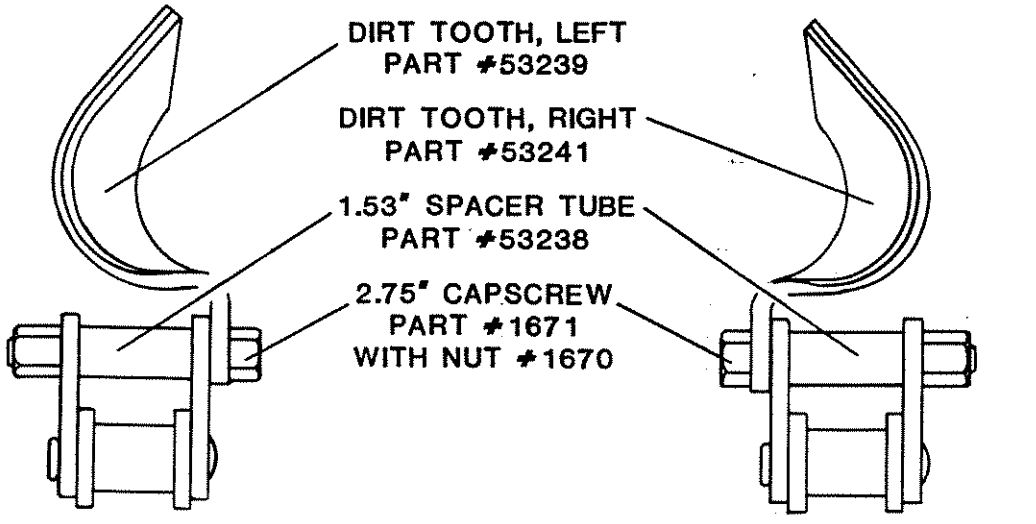
J

DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING TOOTH STATION BREAK DOWN

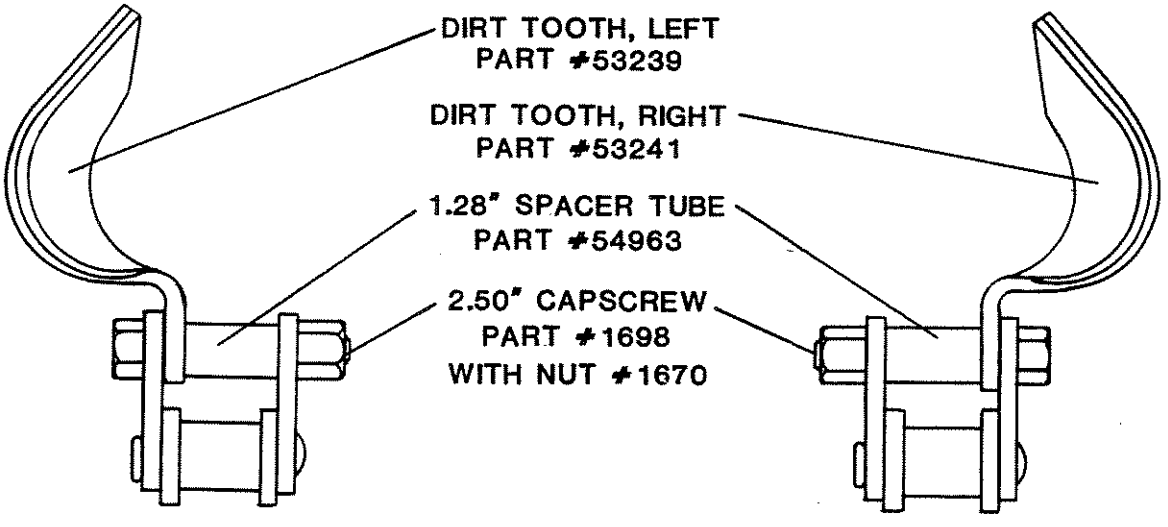
GENERAL INFORMATION

The following diagrams are the complete parts break downs of all the different digging tooth arrangements used on the digging stations for 1.654" pitch chains. The diagrams are frontal views according to the digging chain direction of travel. All 1.654" pitch chains are made up of a combination of some or all of these various digging tooth arrangements. See the "1.654" Pitch Digging Tooth Station Sequence Charts" (located earlier in this section) to find out how the arrangements are used for the various digging chains.



CENTER CUTTER, LEFT

CENTER CUTTER, RIGHT



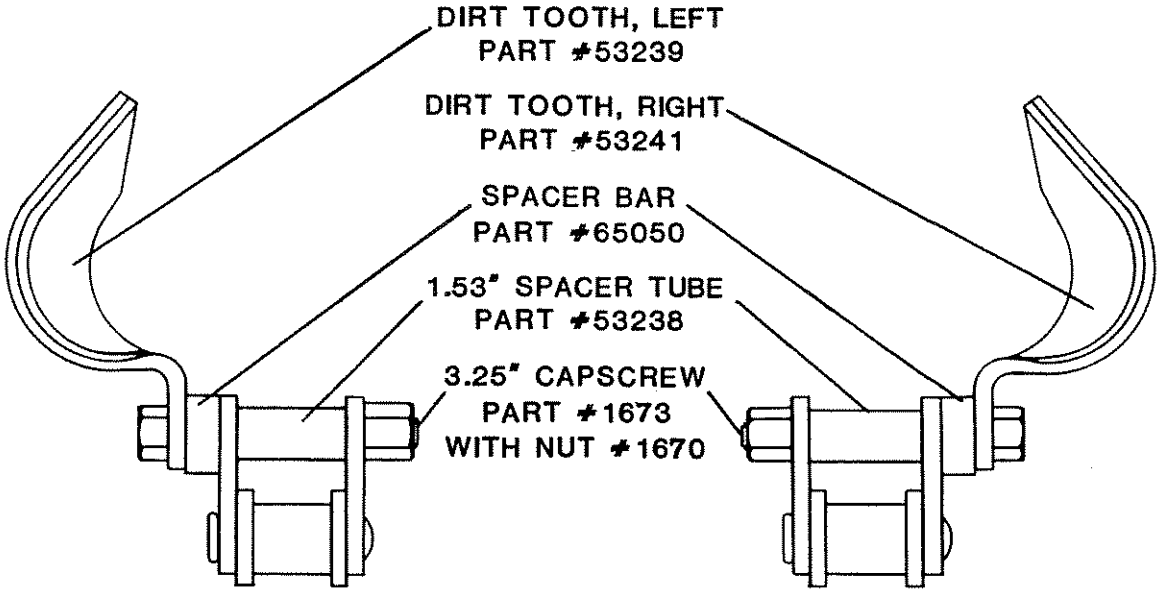
4.25" LEFT STATION

4.25" RIGHT STATION

J

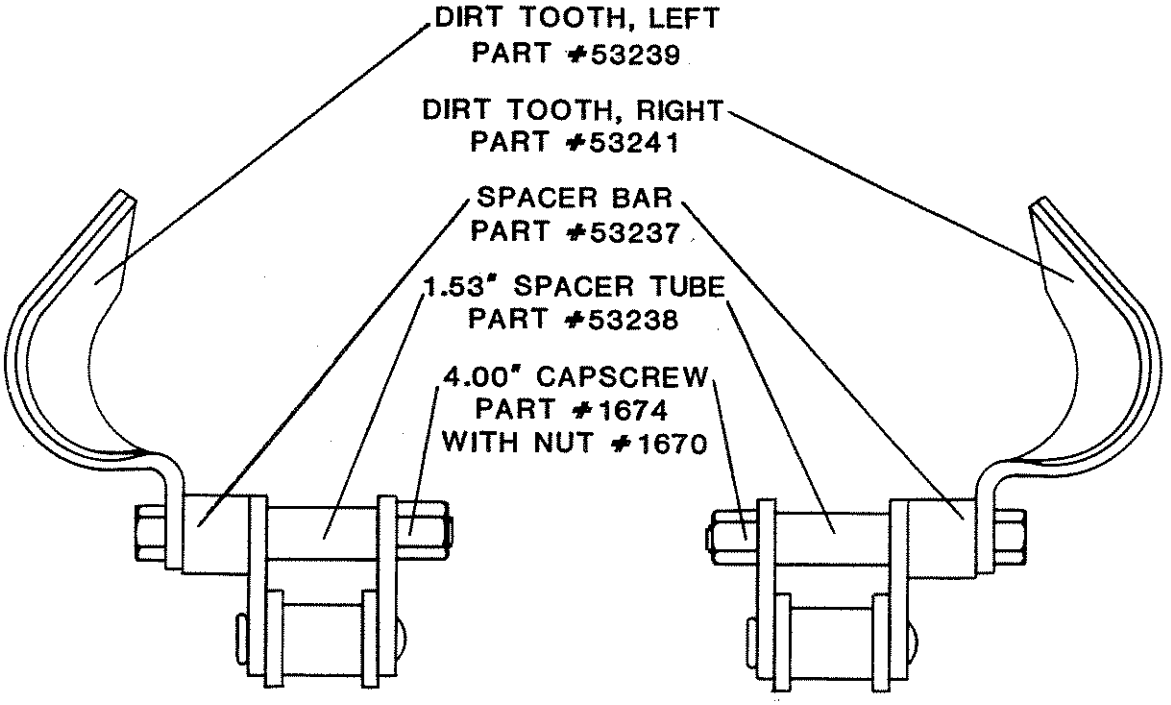
DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING TOOTH STATION BREAK DOWN



6" LEFT STATION

6" RIGHT STATION



8" LEFT STATION

8" RIGHT STATION

DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING CHAIN WIDTH CONVERSIONS

GENERAL INFORMATION

Digging chains can be modified to dig trenches in a variety of widths. By modifying an existing chain, it can be used to dig the width you want and thus save going the expense of a whole new digging chain assembly. This can be a considerable cost savings, however it is more work than just installing a new digging chain assembly.

The information given below is a complete listing of all the possible chain width conversions for 1.654" pitch chain for your trencher. Included in the listing is a break down of all the parts (including part numbers and quantities) needed to make the conversion. Simply install the new parts (and rearrange the old parts) so that the finished chain construction follows that described in the "Digging Tooth Station Sequence" chart and the "Digging Tooth Station Break Down" diagrams for 1.654" pitch chain (located elsewhere in this section).

It should be noted that this information only applies to modifying chains of the same length and pitch. All components must be of the same pitch. You cannot intermix components of different pitch.

CHAIN CONVERSIONS FOR 24" BOOMS

1) FROM 4.25" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
20	53238	Spacer Tube 1.53" Long
10	65050	Spacer Bar
20	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

2) FROM 4.25" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
20	53238	Spacer Tube 1.53" Long
6	53237	Spacer Bar
4	65050	Spacer Bar
8	1673	.38" UNF X 3.25" Capscrew
12	1674	.38" UNF X 4.00" Capscrew
1	53055	8" Crumber Shoe

3) FROM 6" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
6	53237	Spacer Bar
12	1674	.38" UNF X 4.00" Capscrew
1	53055	8" Crumber Shoe

DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING CHAIN WIDTH CONVERSIONS

4) FROM 8" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
6	65050	Spacer Bar
12	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

5) FROM 8" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
20	54963	Spacer Tube 1.28" Long
20	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

6) FROM 6" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
20	54963	Spacer Tube 1.28" Long
20	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

CHAIN CONVERSIONS FOR 30" BOOMS

1) FROM 4.25" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
24	53238	Spacer Tube 1.53" Long
12	65050	Spacer Bar
24	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

2) FROM 4.25" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
24	53238	Spacer Tube 1.53" Long
6	53237	Spacer Bar
6	65050	Spacer Bar
12	1674	.38" UNF X 4.00" Capscrew
12	1673	.38" UNF X 3.25" Capscrew
1	53055	8" Crumber Shoe

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DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING CHAIN WIDTH CONVERSIONS

3) FROM 6" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
6	53237	Spacer Bar
12	1674	.38" UNF X 4.00" Capscrew
1	53055	8" Crumber Shoe

4) FROM 8" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
6	65050	Spacer Bar
12	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

5) FROM 8" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
24	54963	Spacer Tube 1.28" Long
24	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

6) FROM 6" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
24	54963	Spacer Tube 1.28" Long
24	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

CHAIN CONVERSIONS FOR 36" BOOMS

1) FROM 4.25" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
26	53238	Spacer Tube 1.53" Long
13	65050	Spacer Bar
26	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

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DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING CHAIN WIDTH CONVERSIONS

2) FROM 4.25" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
26	53238	Spacer Tube 1.53" Long
6	53237	Spacer Bar
7	65050	Spacer Bar
14	1673	.38" UNF X 3.25" Capscrew
12	1674	.38" UNF X 4.00" Capscrew
1	53055	8" Crumber Shoe

3) FROM 6" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
6	53237	Spacer Bar
12	1674	.38" UNF X 4.00" Capscrew
1	53055	8" Crumber Shoe

4) FROM 8" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
6	65050	Spacer Bar
12	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

5) FROM 8" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
26	54963	Spacer Tube 1.28" Long
26	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

6) FROM 6" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
26	54963	Spacer Tube 1.28" Long
26	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

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DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING CHAIN WIDTH CONVERSIONS

CHAIN CONVERSIONS FOR 48" BOOMS

1) FROM 4.25" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
32	53238	Spacer Tube 1.53" Long
16	65050	Spacer Bar
32	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

2) FROM 4.25" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
32	53238	Spacer Tube 1.53" Long
8	53237	Spacer Bar
8	65050	Spacer Bar
16	1673	.38" UNF X 3.25" Capscrew
16	1674	.38" UNF X 4.00" Capscrew
1	53055	8" Crumber Shoe

3) FROM 6" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
8	53237	Spacer Bar
16	1674	.38" UNF X 4.00" Capscrew
1	53055	8" Crumber Shoe

4) FROM 8" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
8	65050	Spacer Bar
16	1673	.38" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

5) FROM 8" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
32	54963	Spacer Tube 1.28" Long
32	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

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DIGGING CHAIN OPTIONS

1.654" PITCH DIGGING CHAIN WIDTH CONVERSIONS

6) FROM 6" TO 4.25" WIDE

REQ'D	PART NO.	DESCRIPTION
32	54963	Spacer Tube 1.28" Long
32	1698	.38" UNF X 2.50" Capscrew
1	59808	4.25" Crumber Shoe

DIGGING CHAIN OPTIONS

2.00" PITCH DIGGING CHAIN ASSEMBLIES

GENERAL INFORMATION

This page contains a listing of all of the 2.00" pitch digging chain assemblies offered for your trencher. Each chain assembly comes with all necessary teeth and spacers already installed. Just thread the chain onto the trencher and fasten the two ends together with the pin and keeper pin included in the assembly. A crumber shoe of the appropriate width is also included in the chain assembly.

Before you order a new chain, be sure to check for compatibility with corresponding components. You may need to order more than just a chain assembly. You must use a digging boom of the same digging depth as the chain. The crumber bar/personal restraint bar must also be of the same digging depth. The digging sprocket must also be of the same pitch as the chain. All of these components must match for the trencher to function properly.

Bare 2.00" pitch digging chain (without teeth, spacers, or hardware) can be ordered in any desired length under the part number 54433. Just use this number and then specify the length desired in pitches (example, 54 pitches of chain would be needed for a 36" boom).

2.00" PITCH DIGGING CHAIN ASSEMBLIES

Complete chain assemblies. Includes chain with all teeth and spacers attached. Also includes appropriate width crumber shoe.

DESCRIPTION (boom used X trench width)	LENGTH OF CHAIN (in 2.00" pitches)	TENSIL STRENGTH	PART NO.
For 30" Boom 6" Wide	48 Pitch	43,000#	66785
For 30" Boom 8" Wide	48 Pitch	43,000#	66786
For 36" Boom 6" Wide	54 Pitch	43,000#	53925
For 36" Boom 8" Wide	54 Pitch	43,000#	53926
For 48" Boom 6" Wide	66 Pitch	43,000#	53928
For 48" Boom 8" Wide	66 Pitch	43,000#	53929

2.00" pitch chain (must be used with a 12 tooth, 2.00" pitch sprocket #53975.

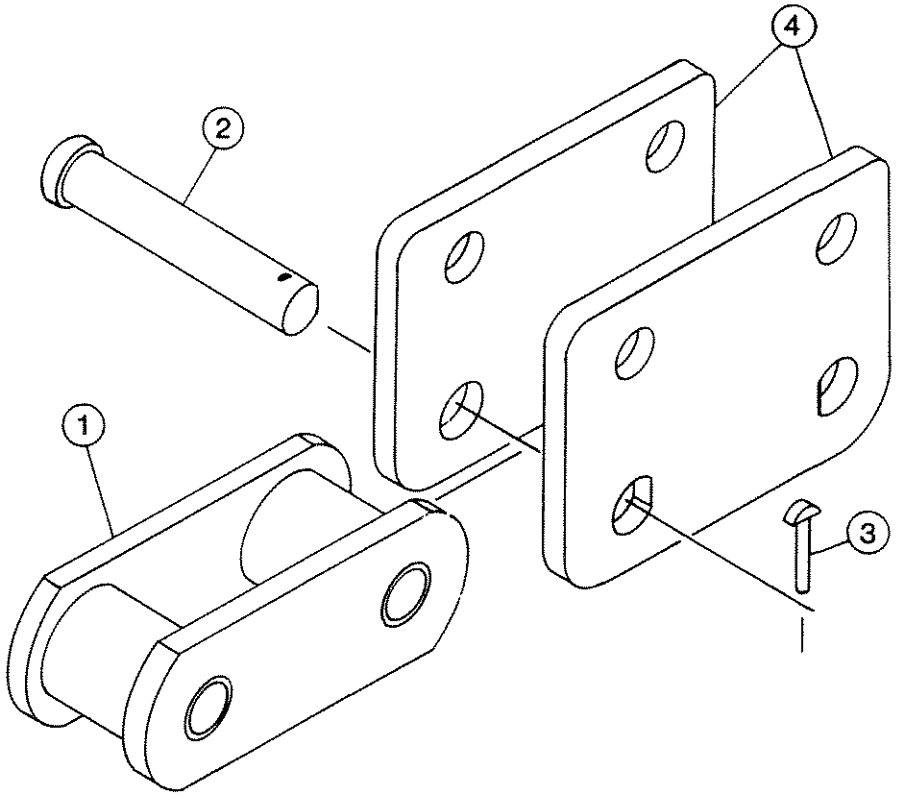
DIGGING CHAIN OPTIONS

2.00" PITCH CHAIN REPLACEMENT PARTS

GENERAL INFORMATION

You can purchase individual chain links and pins for your trencher. These can be used to repair a damaged chain, or lengthen and modify an existing chain. Below is a diagram of the chain's basic components with their descriptions and corresponding part numbers. Use these numbers when ordering. You can also order complete bare chain (without teeth and spacers) in any length desired. The chain is ordered under part number 54433 for 2.00" pitch. Just specify the length you want in pitches.

When pinning links of chain together, first tap the pin through the connector link with the perfectly round holes and then on through the inner link. Place the second connector link in position, you will note that the end of the pin has one side flattened. Rotate the pin until it's flat side lines up with the corresponding flat side of the connector link hole and tap the pin on through. Place the chain keeper pin into the hole at the end of the main pin and tap down tight. Finally, bend the end of the keeper pin over to secure it in place.



NO.	REQ'D	PART NO.	DESCRIPTION
1	Varies	54757	Inner Link
2	Varies	54731	Pin
3	Varies	54732	Chain Keepr Pin
4	Varies	54730	Connector Link Includes (2) Pins #54731 and (2) Chain Keeper Pins #54732

DIGGING CHAIN OPTIONS

2.00" PITCH DIGGING TOOTH STATION SEQUENCE

GENERAL INFORMATION

Every fourth link on a digging chain is a special link called a digging station. These digging station links are designed so that digging teeth can be bolted onto them in a variety of configurations. It is the number and the make up of these different digging stations that make each chain unique.

The following tables show the number of digging stations there are in each available 2.00" pitch digging chain. The digging tooth make up of each digging station is given in code. The key to the code is located at the bottom of the page. Thus these charts will tell you what kind of digging tooth arrangement is at each digging station on each digging chain assembly. The actual parts break down of each digging tooth arrangement is shown on the "Digging Tooth Station Break Down" diagrams located on the following page.

30" BOOM

TRENCH WIDTH	DIGGING TOOTH STATIONS											
	1	2	3	4	5	6	7	8	9	10	11	12
6"	CL	6R	6L	6R	6L	6R	6L	6R	6L	6R	6L	6R
8"	CL	6R	6L	8R	8L	6R	6L	8R	8L	6R	6L	8R

36" BOOM

TRENCH WIDTH	DIGGING TOOTH STATIONS												
	1	2	3	4	5	6	7	8	9	10	11	12	13
6"	CL	6R	6L	6R	6L	6R	6L	6R	6L	6R	6L	6R	6L
8"	CL	6R	6L	8R	8L	6R	6L	8R	8L	6R	6L	8R	8L

48" BOOM

TRENCH WIDTH	DIGGING TOOTH STATIONS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6"	CL	6R	6L	6R	6L	6R	6L	CR	6R	6L	6R	6L	6R	6L	6R	6L
8"	CL	6R	6L	8R	8L	6R	6L	8R	8L	CR	6R	6L	8R	8L	6R	6L

DIGGING TOOTH STATION KEY

CR-CENTER CUTTER, RIGHT
CL-CENTER CUTTER, LEFT

$4\frac{1}{4}$R-$4\frac{1}{4}$" RIGHT STATION
$4\frac{1}{4}$L-$4\frac{1}{4}$" LEFT STATION

6R-6" RIGHT STATION
6L-6" LEFT STATION

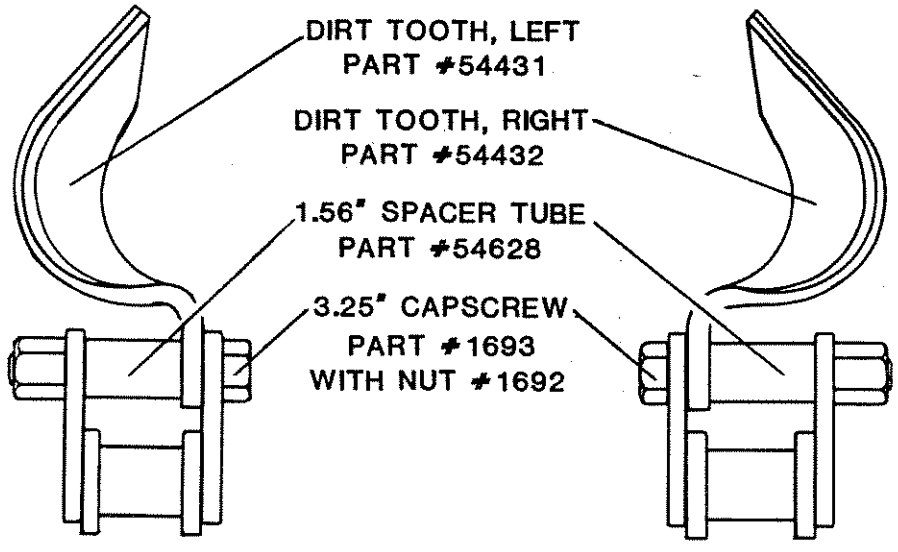
8R-8" RIGHT STATION
8L-8" LEFT STATION

DIGGING CHAIN OPTIONS

2.00" PITCH DIGGING TOOTH STATION BREAK DOWN

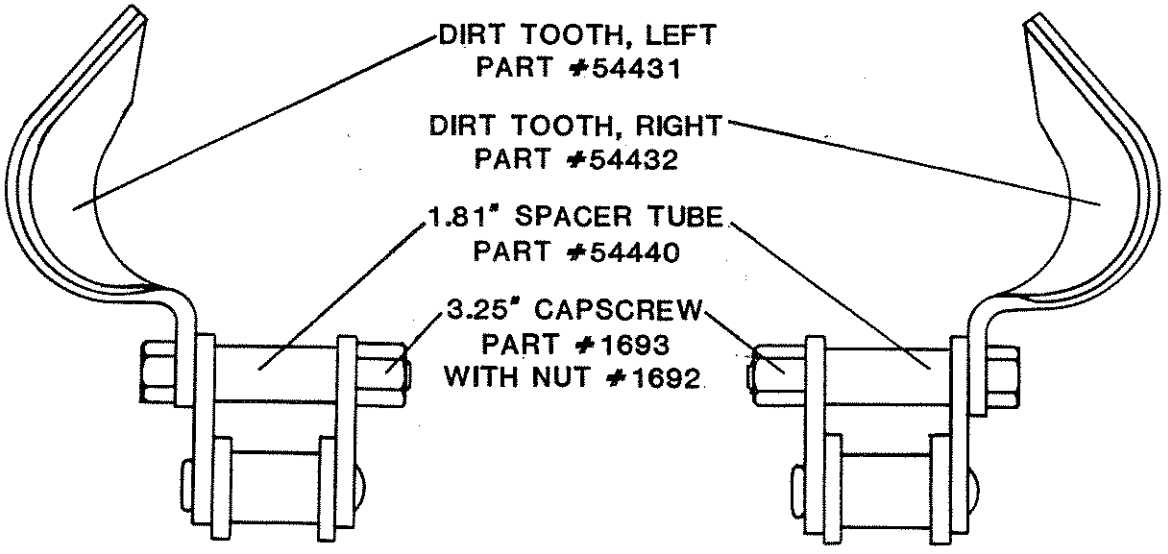
GENERAL INFORMATION

The following diagrams are the complete parts break downs of all the different digging tooth arrangements used on the digging stations for 2.00" pitch chains. The diagrams are frontal views according to the digging chain direction of travel. All 2.00" pitch chains are made up of a combination of some or all of these various digging tooth arrangements. See the "2.00" Pitch Digging Tooth Station Sequence Charts" (located earlier in this section) to find out how the arrangements are used for the various digging chains.



CENTER CUTTER, LEFT

CENTER CUTTER, RIGHT



6" LEFT STATION

6" RIGHT STATION

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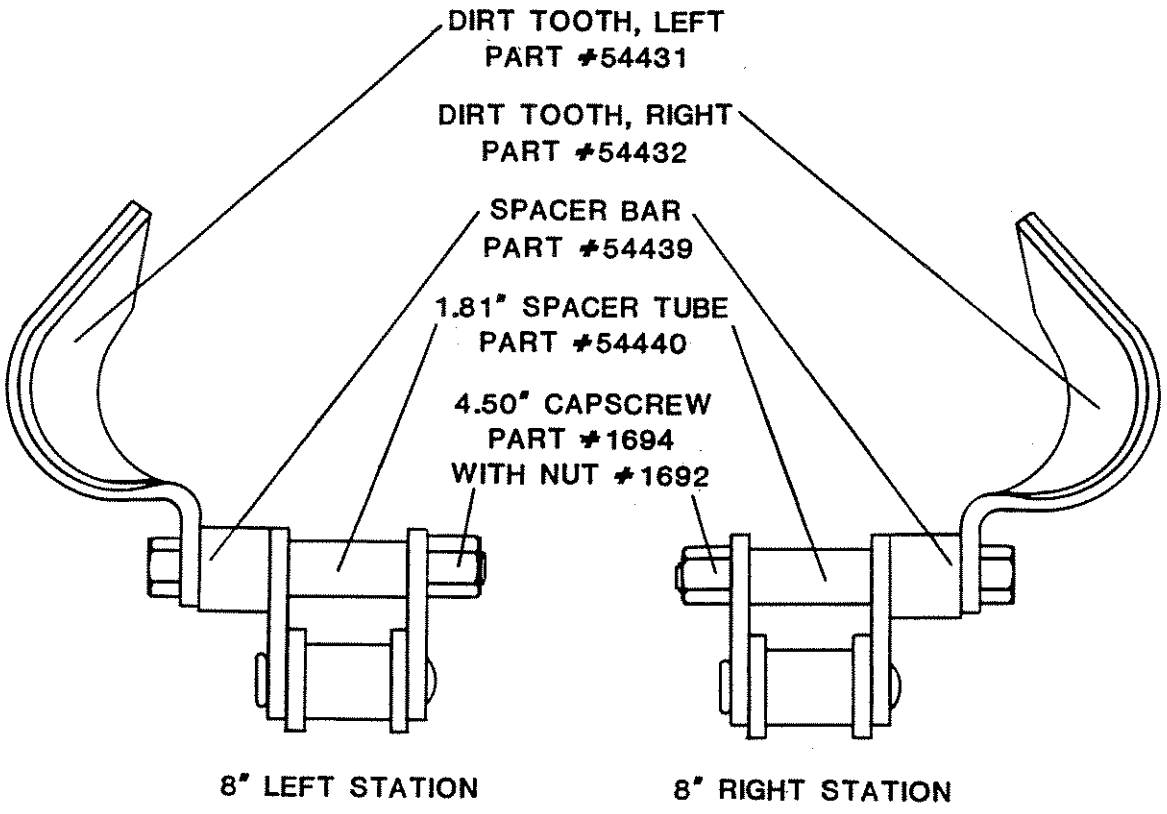
DIGGING CHAIN OPTIONS

2.00" PITCH DIGGING TOOTH STATION BREAK DOWN



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DIGGING CHAIN OPTIONS

2.00" PITCH DIGGING CHAIN WIDTH CONVERSIONS

GENERAL INFORMATION

Digging chains can be modified to dig trenches in a variety of widths. By modifying an existing chain, it can be used to dig the width you want and thus save going the expense of a whole new digging chain assembly. This can be a considerable cost savings, however it is more work than just installing a new digging chain assembly.

The information given below is a complete listing of all the possible chain width conversions for 2.00" pitch chain for your trencher. Included in the listing is a break down of all the parts (including part numbers and quantities) needed to make the conversion. Simply install the new parts (and rearrange the old parts) so that the finished chain construction follows that described in the "Digging Tooth Station Sequence" chart and the "Digging Tooth Station Break Down" diagrams for 2.00" pitch chain (located elsewhere in this section).

It should be noted that this information only applies to modifying chains of the same length and pitch. All components must be of the same pitch. You cannot intermix components of different pitch.

CHAIN CONVERSIONS FOR 30" BOOMS

1) FROM 6" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
10	1694	.50" UNF X 4.50" Capscrew
5	54439	Spacer Bar
1	53055	8" Crumber Shoe

2) FROM 8" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
10	1693	.50" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

CHAIN CONVERSIONS FOR 36" BOOMS

1) FROM 6" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
12	1694	.50" UNF X 4.50" Capscrew
6	54439	Spacer Bar
1	53055	8" Crumber Shoe

DIGGING CHAIN OPTIONS

2.00" PITCH DIGGING CHAIN WIDTH CONVERSIONS

2) FROM 8" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
12	1693	.50" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

CHAIN CONVERSIONS FOR 48" BOOMS

1) FROM 6" TO 8" WIDE

REQ'D	PART NO.	DESCRIPTION
6	54439	Spacer Bar
12	1694	.50" UNF X 4.50" Capscrew
1	53055	8" Crumber Shoe

2) FROM 8" TO 6" WIDE

REQ'D	PART NO.	DESCRIPTION
12	1693	.50" UNF X 3.25" Capscrew
1	53054	6" Crumber Shoe

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GENERAL INFORMATION

Regular maintenance is the key to long equipment life and safe operation. Maintenance requirements have been reduced to an absolute minimum. However, it is very important that these maintenance functions be performed as described below.

CAUTION! Always choose level and hard ground to park the tractor on and set the brake so that the tractor cannot roll. Never perform maintenance on the trencher when the tractor engine is running.

The main part of the maintenance procedure is proper lubrication. This information is covered in detail in Section H however, and will not be repeated here. Therefore turn to Section H for lubrication information and be sure to follow the recommended lubrication time intervals. This is crucial to trencher longevity.

Trenchers are subject to extreme vibration due to their vary nature. Be sure to check the trencher and it's mounting daily for loose bolts and hardware. Tighten according to the bolt torque specifications charts found in Section O.

THE HYDRAULIC SYSTEM

WARNING! Escaping fluid under pressure can have sufficient force to penetrate the skin causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.

Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research immediately to determine proper treatment.

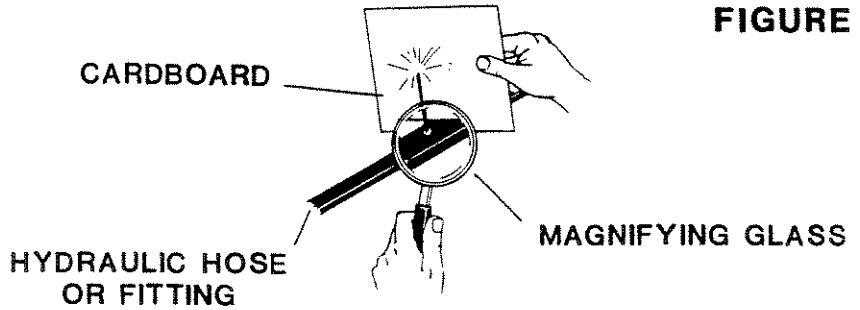


FIGURE 1

The most common cause of premature wear and malfunctioning of hydraulic system components is the ingress of contaminants and incorrect high pressure inlet and low pressure return connections (cavitation).

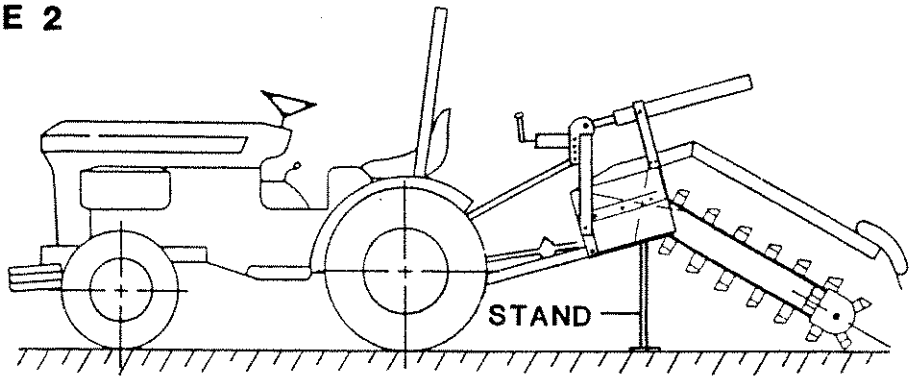
Observe a high standard of cleanliness when doing valve or cylinder maintenance. During maintenance cover or plug ends of disconnected hydraulic lines to prevent contaminants from entering. Use clean oil and a clean container when adding oil for hydraulic purposes. Use the tractor manufacturer's recommended hydraulic oil.

Refer to your hydraulic hose circuit if in doubt about the correct connection.

DIGGING CHAIN REMOVAL

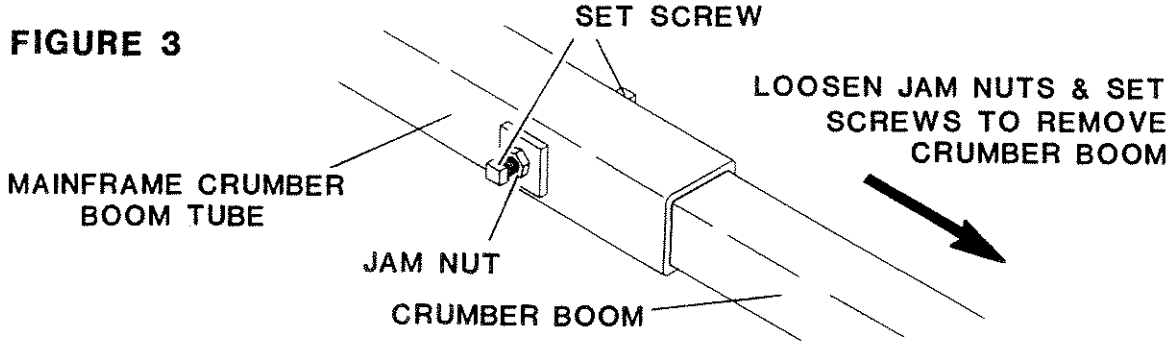
1. To remove the digging chain position trencher boom in transport position, install support legs and lower to ground. It may be necessary to block up the support legs to achieve ground clearance for the chain. See Figure 2

FIGURE 2



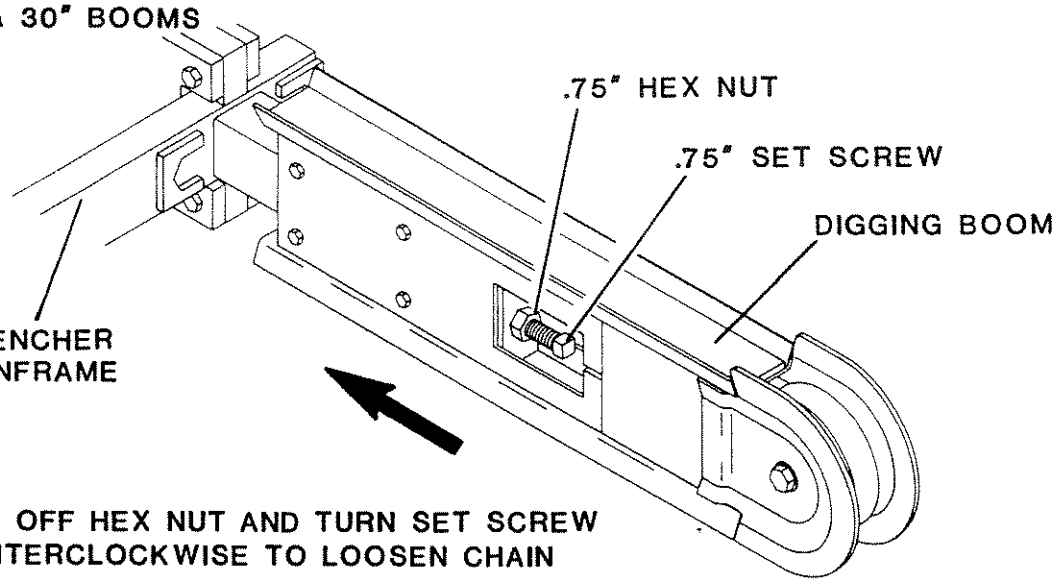
2. Remove crumber assembly by loosening two jam nuts and setscrews and pull the crumber bar/personal restraint bar out of it's support tube. See Figure 3

FIGURE 3



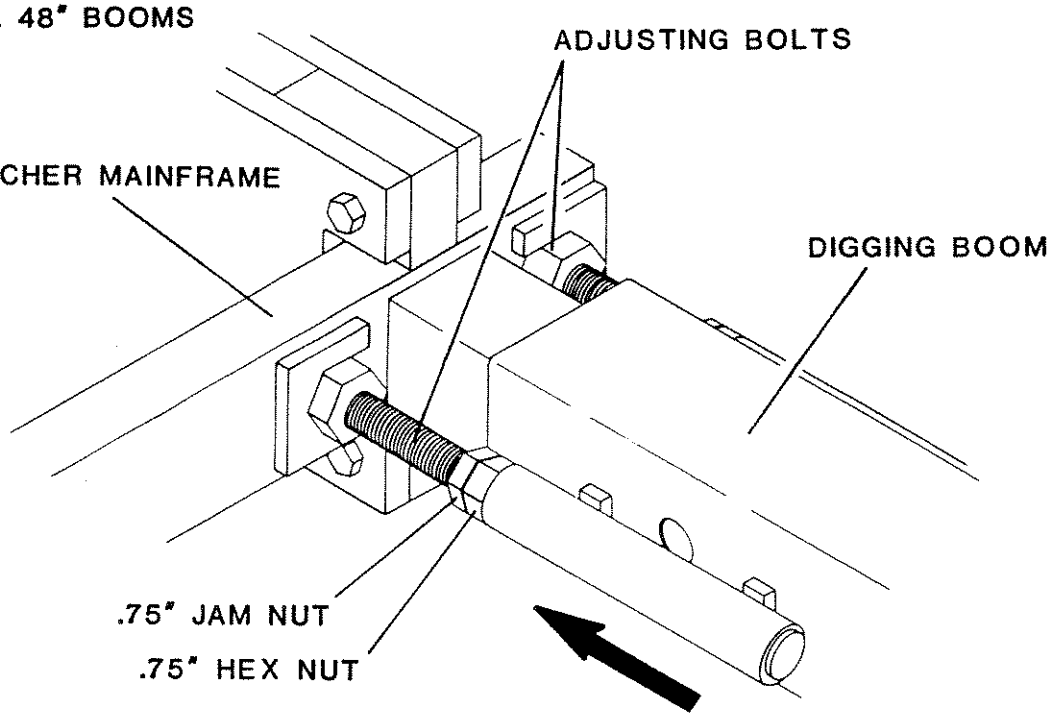
3. Relieve the chain tension. See Figures 4 and 5

FIGURE 4
24" & 30" BOOMS



BACK OFF HEX NUT AND TURN SET SCREW COUNTERCLOCKWISE TO LOOSEN CHAIN

FIGURE 5
36" & 48" BOOMS

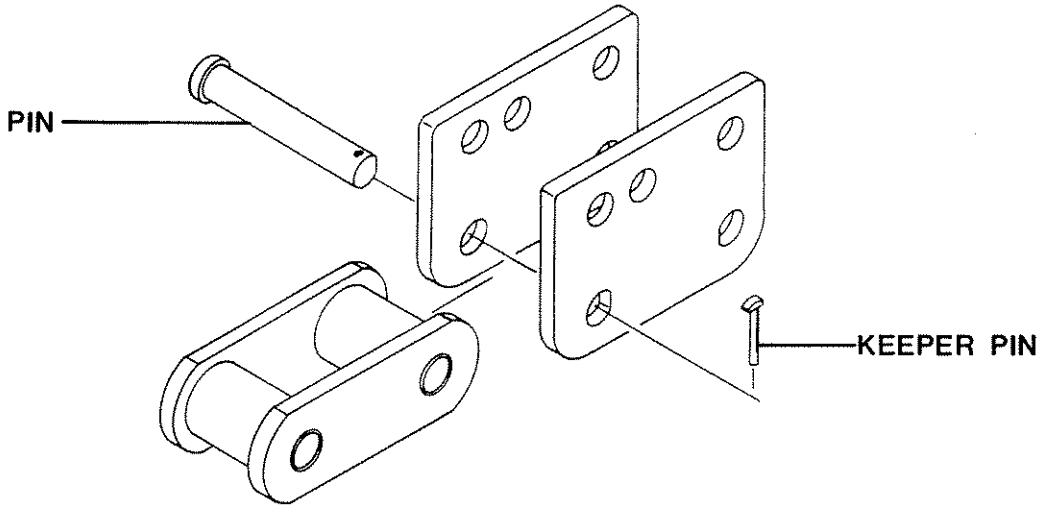


TURN HEX AND JAM NUTS CLOCKWISE TO LOOSEN CHAIN

CAUTION! Once the digging chain has been removed the boom and boom end idler are free to come off. Be careful that these components do not fall off and possibly injure you or a bystander.

4. Remove one of the chain pins by straightening the chain keeper pin and removing it with a pliers. The pin can now be pulled or driven out. See Figure 6

FIGURE 6



5. Carefully remove the digging chain from the boom end idler and drive sprocket.

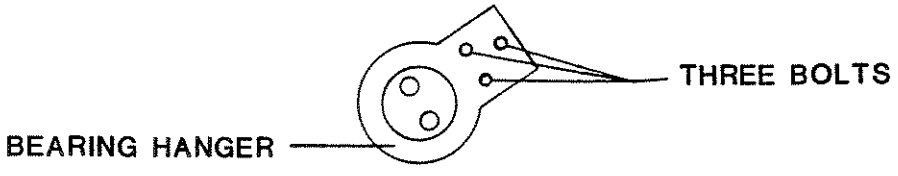
Reverse the procedure to reinstall the digging chain.

HEADSHAFT DRIVE SPROCKET REMOVAL

1. To remove the headshaft drive sprocket, first remove the digging chain as previously described in this section.

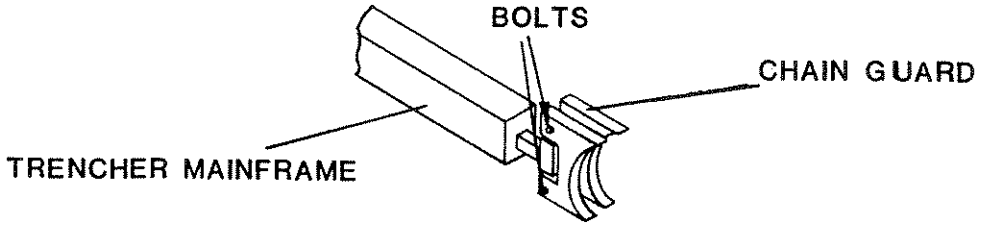
2. Remove the three capscrews that hold the bearing hanger to the trencher mainframe. See Figure 7

FIGURE 7



3. Unfasten the two chain guides from the trencher mainframe and remove. See Figure 8

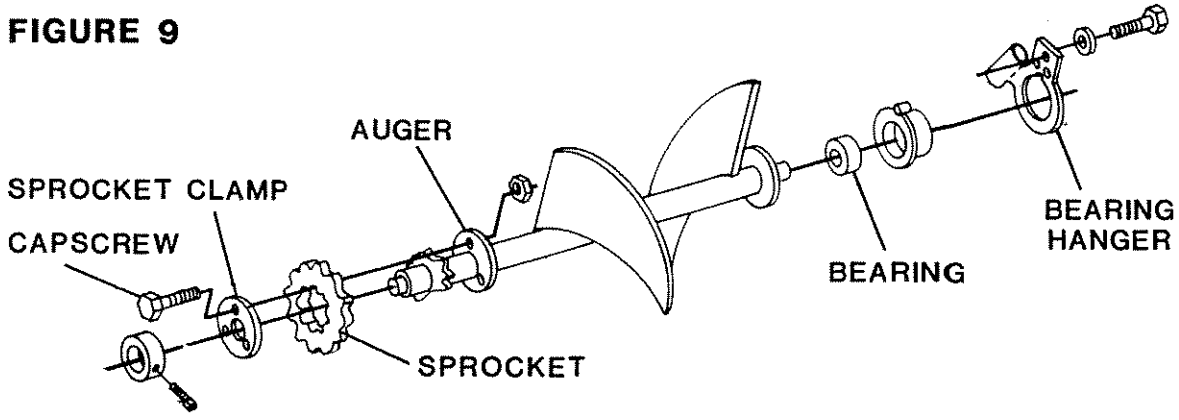
FIGURE 8



4. Pull the headshaft assembly apart from the spline drive connection at the gearbox.

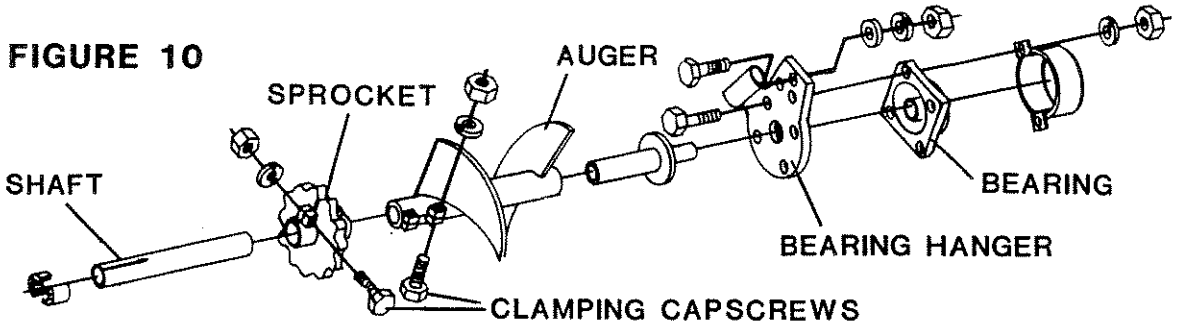
5. On older units, you will have to remove the three capscrews that hold the sprocket clamp against the sprocket and auger. With the capscrews out, the sprocket clamp and sprocket can be removed. See Figure 9

FIGURE 9



6. On newer units, the drive sprocket is clamped onto the headshaft along with the auger. Simply loosen the clamping capscrews to free the auger for removal. See Figure 10

FIGURE 10



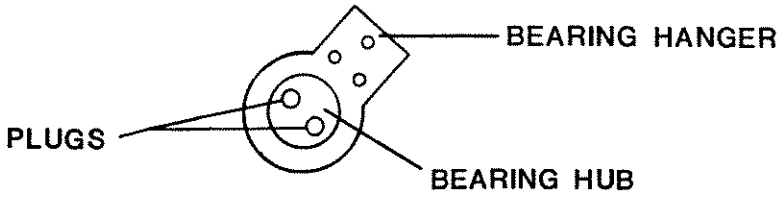
To reinstall the drive sprocket first clean and grease the spline of the headshaft. Then reinstall the assembly by following the afore mentioned procedure in reverse.

HEADSHAFT OUTBOARD BEARING REMOVAL

1. On units with serial numbers up to 6K189, to remove the headshaft outboard bearing, first remove the three capscrews that hold the bearing hanger to the mainframe. Remove the hanger with the bearing.

2. These units have a bearing hub that retains the bearing. The backside of the hub has two .25" NPT plugs. Remove the plugs. See Figure 11

FIGURE 11



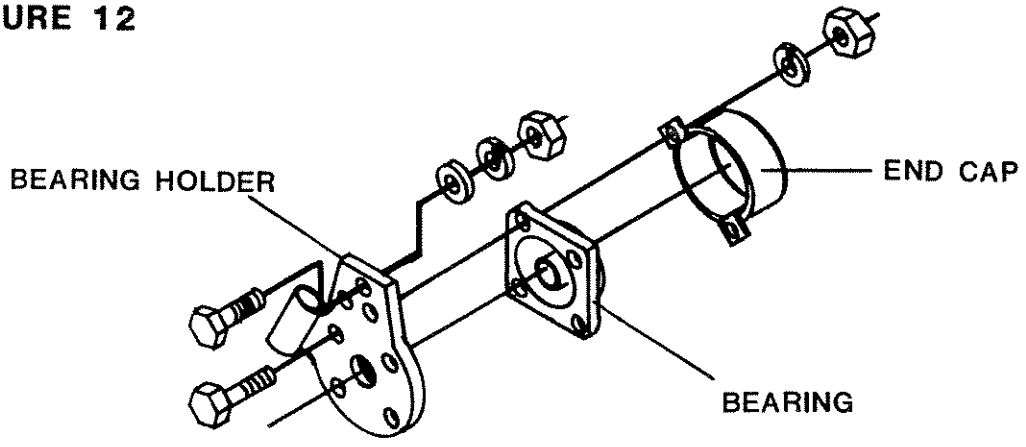
3. Clamp the bearing hub in a bench vise being sure that the vise does not restrict bearing removal.

4. Drive out the bearing by inserting a driver or punch through the plug holes and tapping them with a hammer.

5. You may have to use a bearing puller to remove the bearing from the headshaft.

6. On units fron serial number 6K189 on, remove the cap that covers the bearing end. See Figure 12

FIGURE 12



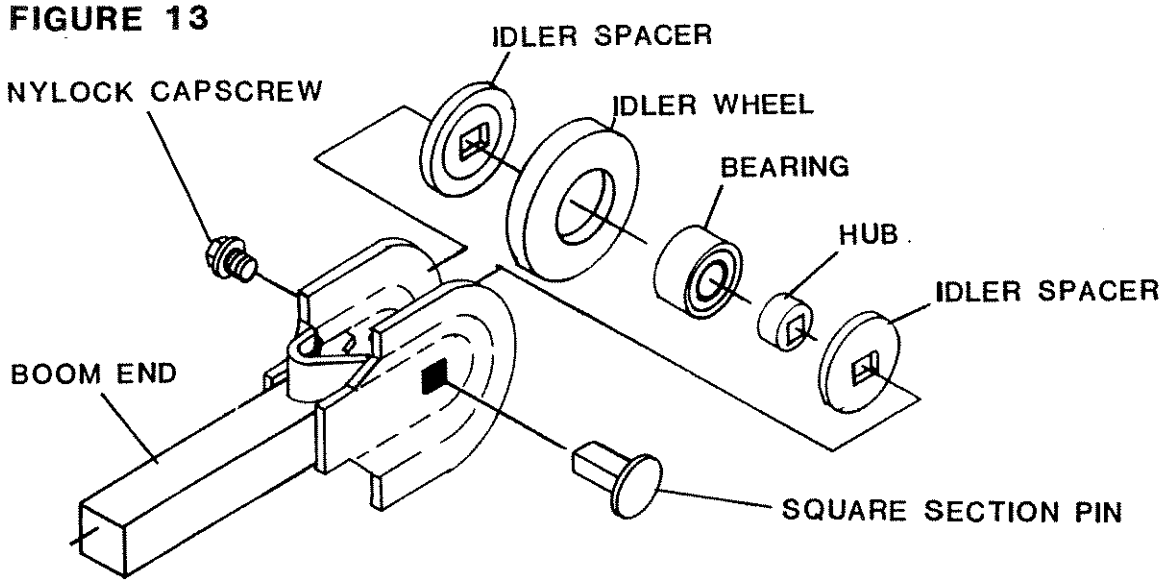
7. Remove the capscrews that secure the bearing to the hanger and remove the bearing. Again a bearing puller may be necessary to remove the bearing from the shaft.

BOOM END IDLER BEARING REMOVAL

1. To remove the boom end idler bearing first remove the digging chain as previously described in this section.

2. Remove the nylock capscrew and the square section pin from the boom end. The idler spacers and wheel will separate from the chain guides when the pin is removed. See Figure 13

FIGURE 13



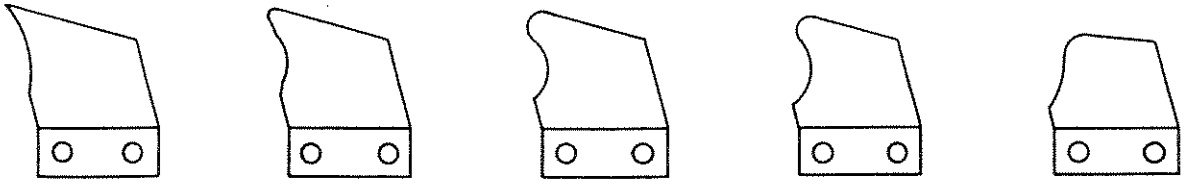
3. Press out the idler bearing from the idler wheel.

4. Press out the idler hub.

DIGGING TOOTH REPLACEMENT

Sharp teeth are important to good performance. When teeth wear out, production will drop sharply, increasing wear and tear on other components. Trenching chain costs per foot of trench will increase dramatically.

Cup teeth wear on the tip and side bulge in varing amounts. Wear patterns change with different digging conditions. The following patterns and captions are approximate and should be used as a guide to help you determine your own best cost/benefit tooth replacement time. Normal replacement should be made between 30% and 60% reduction in performance. Replacement is a simple bolt-on procedure.

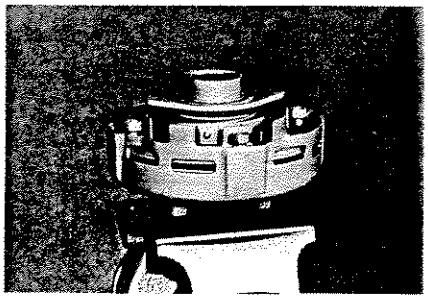


New	20% Reduced Performance	50% Reduced Performance	70% Reduced Performance	Beyond use

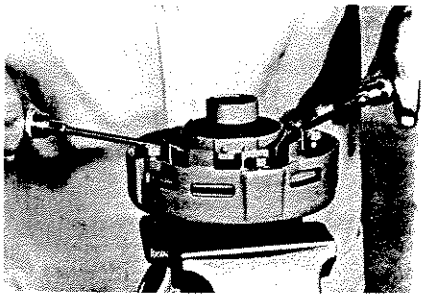
MAINTENANCE

FRICTION CLUTCH

DISASSEMBLY

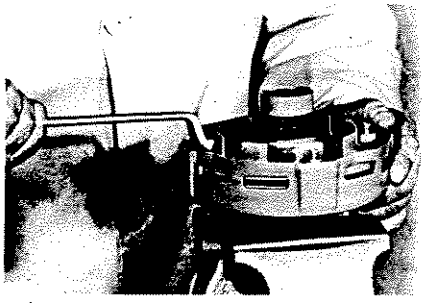


See disassembly instructions for quick-disconnect lock, ball type, on Form # 4-QD.

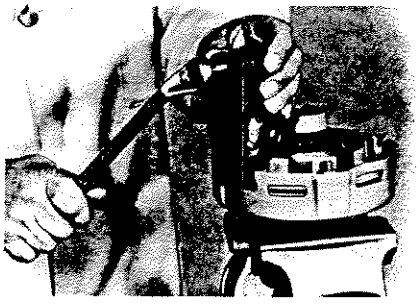


If the clutch has a warning device, remove the sleeve with the leaf springs by prying it up with two screw drivers as illustrated.

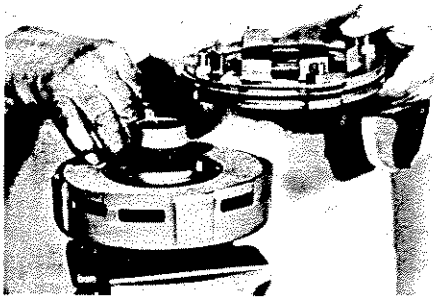
Bradco units not equipped with warning device.



Tighten the four hex nuts (12) uniformly until the clutch pack and hub are loose.

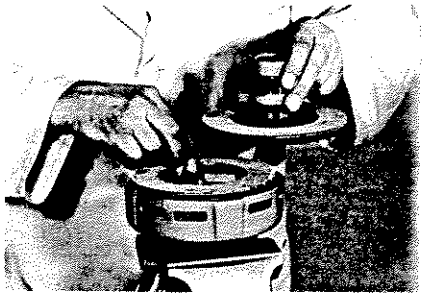


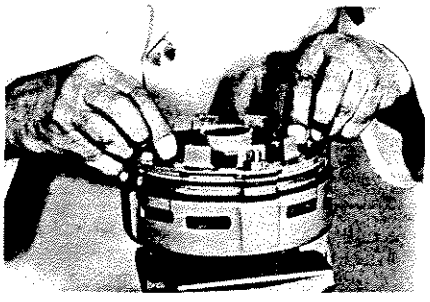
Use special tool SW18 to bend all four retaining lugs back on the edge of the clutch housing.



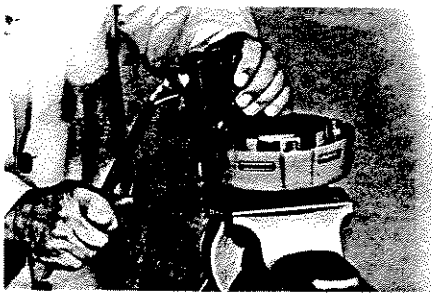
Remove the thrust plate with Belleville spring(s) and lug ring (if used) to get at the friction disks, drive plates and hub for inspection and service. (Note: K92 two plate does not use drive plates #8 & 9)

ASSEMBLY

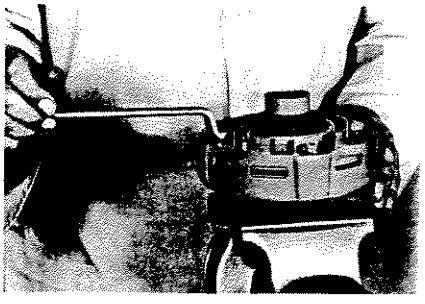




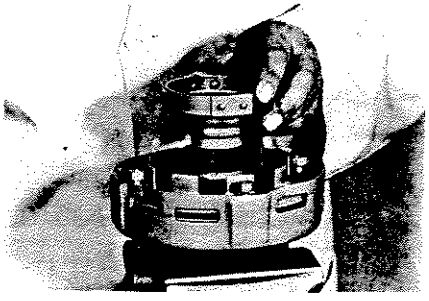
Place hub and friction disks into the clutch housing. Note that items #8 & 9 are only used in the four plate clutch. Next, compress the Belleville spring(s) and the lug ring (if used) to the pressure plate by tightening the four hex nuts and placing them into the clutch housing as illustrated.



Use special tool SW18 to bend the retaining lugs inward over the Belleville spring edges to secure the spring(s) when you back the four hex nuts off. (Note: Wide lugs for one (1) Belleville spring, narrow lugs for two (2) Belleville springs)



With the lugs in place loosen the four hex nuts completely to the end of the threaded studs. (Replace the sleeve with the leaf springs for the warning device if used.)

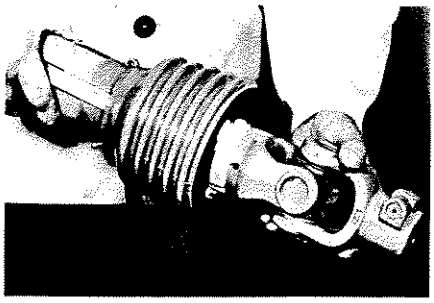


Replace the quick-disconnect or clamp bolt assembly, if so equipped.

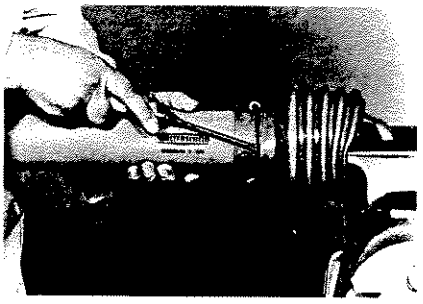
MAINTENANCE

SAFETY SHIELD

DISASSEMBLY

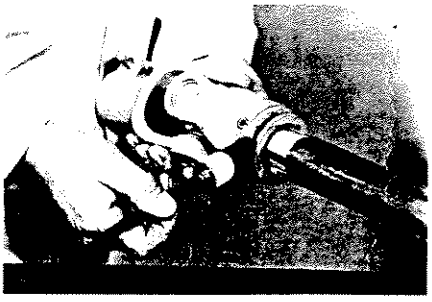


Use special tool SW21 to release bearing locking tabs and remove the shield from P.T.O. drive shaft half.



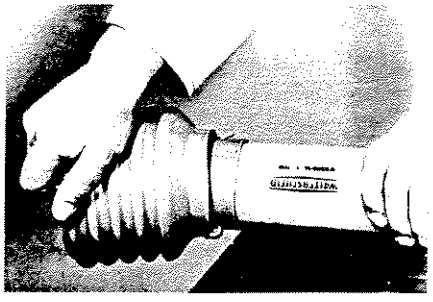
Or, clamp the P.T.O. yoke in the vise as shown to create pressure on the locking tabs and use a flat bladed screw driver to release one tab at a time to remove shield.

ASSEMBLY

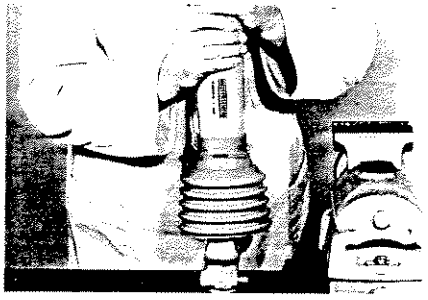


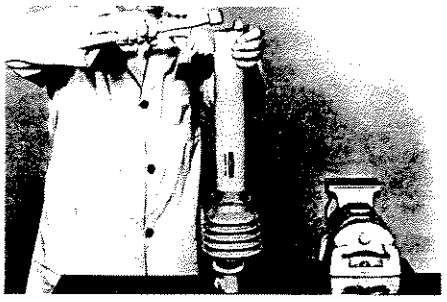
Grease the shield bearing groove on the yoke and the telescoping tube before assembly.

Place bearing ring in groove with the locking tabs nearest the telescoping tube side.

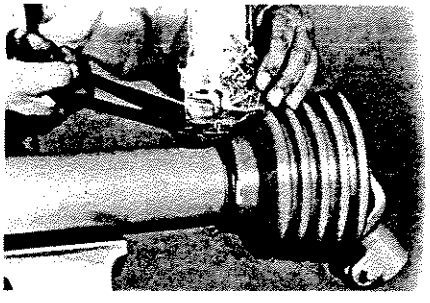


To remove the old shield cone, cut the cone near the bearing cap being careful not to damage the cap. Heat the new shield cone by placing the contact portion in water heated to approximately 180° F. until it is very flexible. Then, pull it over the tube and on to the bearing cap. As it cools, the cone will return to its natural size and become secure for normal functioning.

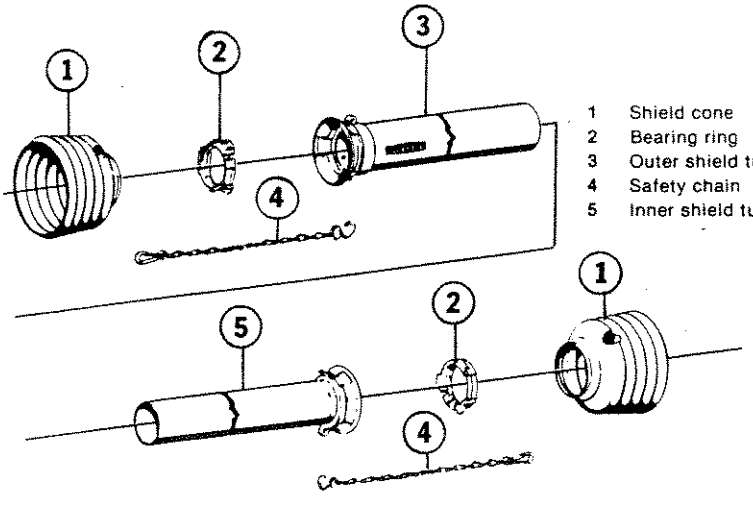




To mount the shield on to the half shaft, place it over the telescoping member, align the locking tabs on the bearing in the appropriate channels of the bearing cap and push the shield into place or apply light blows until all three locking tabs are visible in the openings.

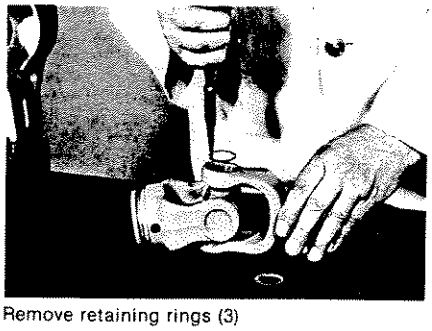


Attach safety chain.

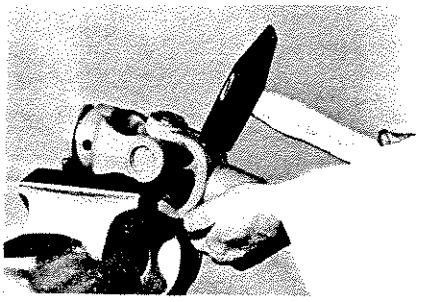


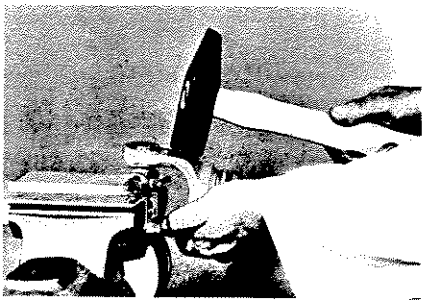
1 Shield cone
2 Bearing ring
3 Outer shield tube with bearing cap
4 Safety chain
5 Inner shield tube with bearing cap

DISASSEMBLY



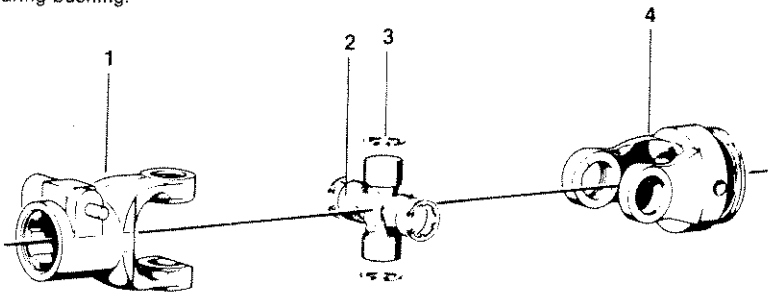
Remove retaining rings (3)





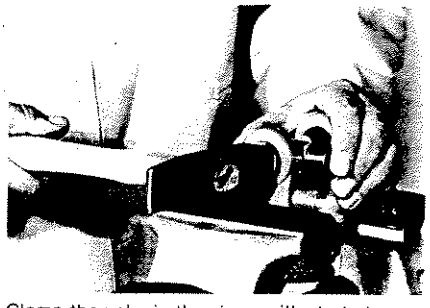
Place joint in the vise as illustrated (do not clamp tight) and with light hammer blows, drive up the bearing bushing.

Use special tool SW23 or SW27 to clamp the bearing bushing in the vise. Using either light hammer blows or by twisting the yoke, remove the bearing bushing.



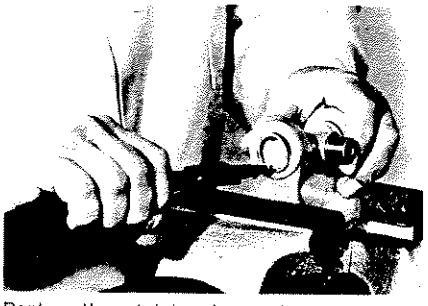
1 Quick-disconnect yoke cpl.
2 Cross and bearing kit cpl.
3 Retaining ring
4 Inboard yoke

ASSEMBLY

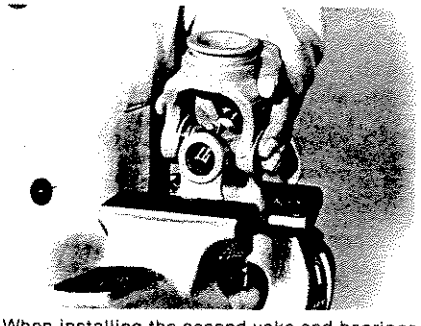


Clamp the yoke in the vise as illustrated. Remove the bearing bushing from the cross kit and place the cross into one of the yokes. Begin mounting the bearings by extending the cross journal out through the bearing bore. Place a bearing on it and holding the cross with one hand to position the bearing, tap with light hammer blows until you notice resistance. Do the same for the opposite bearing.

Using a flat surfaced drift punch or special tool SW28 drive the bearing in until the annular groove is visible.

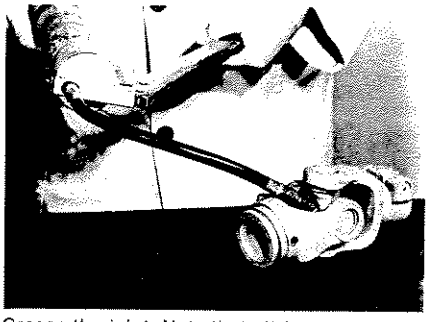


Replace the retaining ring, make sure it is properly seated.



When installing the second yoke and bearings, make sure the grease zerk is positioned on the proper side for easy access when lubricating. Replace the bearings as described previously using the cross journal to help guide the bearings into the bore.

Relieve the stress from the bearings and yoke by applying several sharp hammer blows to the yoke ears.



Grease the joint. Note that all four bearings are properly purged and rotate to make sure the U-joint will move freely.

STORAGE

605 TRENCHER

GENERAL INFORMATION

The following storage procedures will help you to keep your trencher in top condition. They will also help you get off to a good start the next time your trencher is needed. We therefore strongly recommend that you take the extra time to follow these procedures whenever your trencher will not be used for an extended period of time.

PREPARATION FOR STORAGE

1. Clean the trencher exterior thoroughly, removing all mud, dirt, and grease.

2. Inspect trencher for visible signs of wear, breakage or damage. Order any parts required and make necessary repairs to avoid delays when starting next season.

3. Tighten all loose bolts, nuts, and set screws.

4. Inspect the gear box oil level and condition. If oil is contaminated, drain and refill.

5. Coat the digging chain with a thin covering of oil. Operate chain for a short period to work the oil into the pins.

6. Touch up all unpainted and exposed areas with paint to prevent rust.

7. Replace operating decals if damaged or in unreadable condition.

8. Store the trencher in a dry and protected place. Leaving the trencher outside, exposed to the elements will materially shorten it's life.

REMOVING FROM STORAGE

1. Remove all protective coverings.

2. Check hydraulic hoses for deterioration and if necessary, replace.

3. Check gear box oil level and fill as needed.

4. During cold weather, operate the trencher slowly for a short time before placing the unit under full load.

TROUBLE SHOOTING

605 TRENCHER

GENERAL INFORMATION

Your trencher was designed to be as simple and as trouble free as possible. We realize however that problems can and do occur. The purpose of this section is to help you in the event that a problem does develope. Why we cannot possibly cover every problem that might occur, you will find that those that are most common are covered here.

PROBLEM: Digging chain will not turn.

POSSIBLE CAUSE AND REMEDY:

1. Tractor hydraulic oil level to low. Check the tractor hydraulic oil level. If low, fill with tractor manufacturer suggested oil.

2. Quick coupler not completely engaged. Check to see that all couplers are matched pairs and engaged correctly. Check coupler hook-up information (See Section E for proper hydraulic hose routing).

3. Quick coupler failure. Check couplers for dirt, rust or other contaminates that could effect coupler engagement. Clean or replace couplers as needed.

4. Obstruction in hydraulic hose. Remove hydraulic hoses and couplers one at a time and check flow through hose by blowing through the hose or by pouring hydraulic fluid through the hose. Clean or replace hose as needed.

5. Lift arms not parallel (critical only on small tractors with limited lift capacity). Adjust the top link length and postition all three links as parallel as possible.

6. PTO drive shaft improper length. Check PTO shaft lengths with those specified in Section I, "TRENCHER ASSEMBLY/PTO DRIVE SHAFT LENGTHS". If shaft is too long, cut to correct length as noted on chart.

7. Insufficient tractor pump pressure. Check tractor oil pressure with required pressure specified in tractor operator's manual. Adjust or repair tractor as needed.

PROBLEM: Hydraulic oil overheats.

POSSIBLE CAUSE AND REMEDY:

1. Relief valve is set to low. Have relief valve checked by a qualified service person and set to proper setting

2. Quick coupler or hose restriction. Inspect couplers and hoses for dirt, rust, and other contaminates and repair or replace as needed.

3. Three-point control in extreme lift position (applies only on some tractor models). Lower the three-Point control lever until the system discontinues going over the relief.

4. Valve sticking in open position. Check valves for sticking and repair valve as needed.

5. Creeping tractor other than in the low range of the transmission (hydrostatic transmissions only). Trench only in the low range of the transmission.

PROBLEM: PTO drive shaft does not turn.

POSSIBLE CAUSE AND REMEDY:

1. PTO shaft not properly installed on tractor. Check shaft for proper installation as noted in Section F.

2. Digging chain pinched or bound causing slip clutch or tractor clutch to slip. With tractor engine shut off, inspect chain for dirt and rock build-up and remove any obstructions found.

3. PTO system in tractor not properly engaging. Check engagement of PTO in tractor and engage correctly if needed. Repair tractor if PTO will still not engage.

PROBLEM: Digging chain and auger will not turn.

POSSIBLE CAUSE AND REMEDY:

1. Digging chain jammed or bound. With tractor engine shut off, inspect digging chain for rock and dirt build up and remove obstructions as found.

2. PTO drive shaft clutch slipping. With the tractor engine turned off, remove and inspect the clutch for damage and wear (look for discolored paint on clutch housing). Repair or replace as necessary.

3. Key sheared at trencher end of PTO shaft. Remove shaft and replace key.

4. Sheared key or broken gear in gear box. Remove gearbox cover and inspect. Repair as needed.

5. Drive gear and/or auger clamps slipping. Check clamping capscrews on drive sprocket and auger and tighted as needed.

PROBLEM: Oil leaking from gearbox.

POSSIBLE CAUSE AND REMEDY:

1. Oil level too high. Drain off excess oil from oil plug and reinstall plug.

2. Plugged or incorrect vent plug. Check vent plug for proper fit and inspect for clogging. Clean or replace as needed.

3. Seals worn out or defective. Inspect bearing and housing seal areas for leaks and replace seals if necessary

PROBLEM: Poor trenching production.

POSSIBLE CAUSE AND REMEDY:

1. Teeth worn or missing. Excessively worn teeth can cut a trench that is too narrow for the boom end to slide through. Replace teeth if necessary.

2. Auger running on ground. Trench with the trencher raised high enough to keep the auger from touching the ground.

3. Incorrect tooth spacing or style for digging conditions. See Section J "DIGGING CHAIN OPTIONS" for proper digging chain and tooth set-up.

4. Turning to short of a radius with the trencher. Turning to tight with the trencher while digging will cause the digging chain to bind. See Section G for proper digging techniques.

5. Trenching on an uneven terrain. Level the path of the tractor before trenching.

6. Digging chain too tight. Digging chain should be just tight enough to stay on the trencher when digging. Adjust as necessary.

7. Trying to trench uphill. Trenching uphill takes more power than trenching downhill. Always try to trench downhill if possible.

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8. Incorrect boom angle for trenching conditions. Trench at the appropriate angle as described in Section G "OPERATING TECHNIQUES".

9. Trencher not setting level. Adjust leveling lift linkage.

10. Quick coupler or hose restriction. Inspect couplers and hoses for dirt, rust, and other contaminates and repair or replace as needed.

11. Cutting a ditch size beyond the ability of the tractor.

BOLT TORQUE SPECIFICATIONS

GENERAL TORQUE SPECIFICATION TABLE

Use the following torques when special torques are not given. These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads. Remember to always use grade five or better when replacing bolts.

SEE Grade No.		2				5				8 *			
Bolt head identification marks as per grade NOTE: Manufacturing Marks Will Vary						  				  			
Bolt Size		Torque Pounds Feet		Newton-Meters		Torque Pounds Feet		Newton-Meters		Torque Pounds Feet		Newton Meters	
Inches	Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	30.3
5/16	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8	9.53	20	23	27.1	31.2	35	42	47.5	57.0	45	54	61.0	73.2
7/16	11.11	30	25	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2	12.70	45	52	61.0	70.5	80	96	108.5	130.2	110	132	149.2	179.0
9/16	14.29	65	75	88.1	101.6	110	132	149.2	179.0	160	192	217.0	260.4
5/8	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358.0
3/4	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8	22.23	160	200	216.8	271.0	400	480	542.4	650.9	600	720	813.6	976.3
1	25.40	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5
1-1/8	25.58	—		—		800	880	1084.8	1193.3	1280	1440	1735.7	1952.6
1-1/4	31.75	—		—		1120	1240	1518.7	1681.4	1820	2000	2467.9	2712.0
1-3/8	34.93	—		—		1460	1680	1979.8	2278.1	2380	2720	3227.3	3688.3
1-1/2	38.10	—		—		1940	2200	2630.6	2983.2	3160	3560	4285.0	4827.4
										* Thick nuts must be used with Grade 8 bolts.			

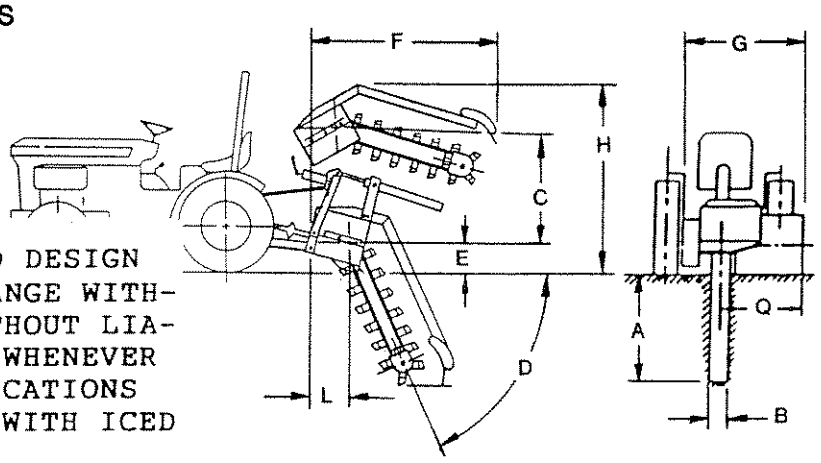
METRIC BOLT TORQUE SPECIFICATIONS

Size of screw	Grade No.	Coarse thread Pitch (mm)	Coarse thread Pounds Feet	Coarse thread Newton-Meters	Fine thread Pitch (mm)	Fine thread Pounds Feet	Fine thread Newton-Meters
M6	4T (4)	1.0	3.6–5.8	4.9–7.9	—	—	—
	7T (7)		5.8–9.4	7.9–12.7		—	—
	8T (8) (11)		7.2–10	9.8–13.6		—	—
M8	4T	1.25	7.2–14	9.8–19	1.0	12–17	16.3–23
	7T		17–22	23–29.8		19–27	25.7–36.6
	8T		20–26	27.1–35.2		22–31	29.8–42
M10	4T	1.5	20–25	27.1–33.9	1.25	20–29	27.1–39.3
	7T		34–40	46.1–54.2		35–47	47.4–63.7
	8T		38–46	51.5–62.3		40–52	54.2–70.5
M12	4T	1.75	28–34	37.9–46.1	1.25	31–41	42–55.6
	7T		51–59	69.1–79.9		56–68	75.9–92.1
	8T		57–66	77.2–89.4		62–75	84–101.6
M14	4T	2.0	49–56	66.4–75.9	1.5	52–64	70.5–86.7
	7T		81–93	109.8–126		90–106	122–143.6
	8T		96–109	130.1–147.7		107–124	145–168
M16	4T	2.0	67–77	90.8–104.3	1.5	69–83	93.5–112.5
	7T		116–130	157.2–176.2		120–138	162.6–187
	8T		129–145	174.8–196.5		140–158	189.7–214.1
M18	4T	2.0	88–100	119.2–136	1.5	100–117	136–158.5
	7T		150–168	203.3–227.6		177–199	239.8–269.6
	8T		175–194	237.1–262.9		202–231	273.7–313
M20	4T	2.5	108–130	146.3–176.2	1.5	132–150	178.9–203.3
	7T		186–205	252–277.8		206–242	279.1–327.9
	8T		213–249	288.6–337.4		246–289	333.3–391.6

SPECIFICATIONS

605 TRENCHER

TRENCHER DIMENSIONS



SPECIFICATIONS AND DESIGN ARE SUBJECT TO CHANGE WITHOUT NOTICE AND WITHOUT LIABILITY THEREFOR. WHENEVER APPLICABLE SPECIFICATIONS ARE IN ACCORDANCE WITH ICED AND SAE STANDARDS.

TRENCHER SPECIFICATIONS TABLE

	DESCRIPTION	SPEC.
A.	Maximum Trench Depth With Auger Touching Ground, 60° Digging Angle	
	24" Boom Length	24"
	30" Boom Length	30"
	36" Boom Length	36"
	48" Boom Length	48"
B.	Maximum Trench Width	
	4¼"	All Boom Lengths
	6"	All Boom Lengths
	8"	All Boom Lengths
C.	Total Headshaft Movement	Varies
D.	Maximum Trenching Angle	65°
E.	Headshaft Height With Auger Touching Ground	9"
F.	Transport Length	
	24" Boom Length	N/A
	30" Boom Length	N/A
	36" Boom Length	60"
	48" Boom Length	75"
G.	Transport Width	40"
H.	Transport Height	64"
L.	Distance From 3-Point To Headshaft	13"
Q.	Centerline Of Trench To Outside Edge of Machine	24"
	3-Point Hitch Mounting System, Category 1	
	34,000 lb. Tensile Strength Chain, 1.654" Pitch	

N/A = Not Available

Specifications Based Upon B8200 HSD Tractor, Category 1, 3-Point Hitch And Rear Tires 13.6" X 16" Turf

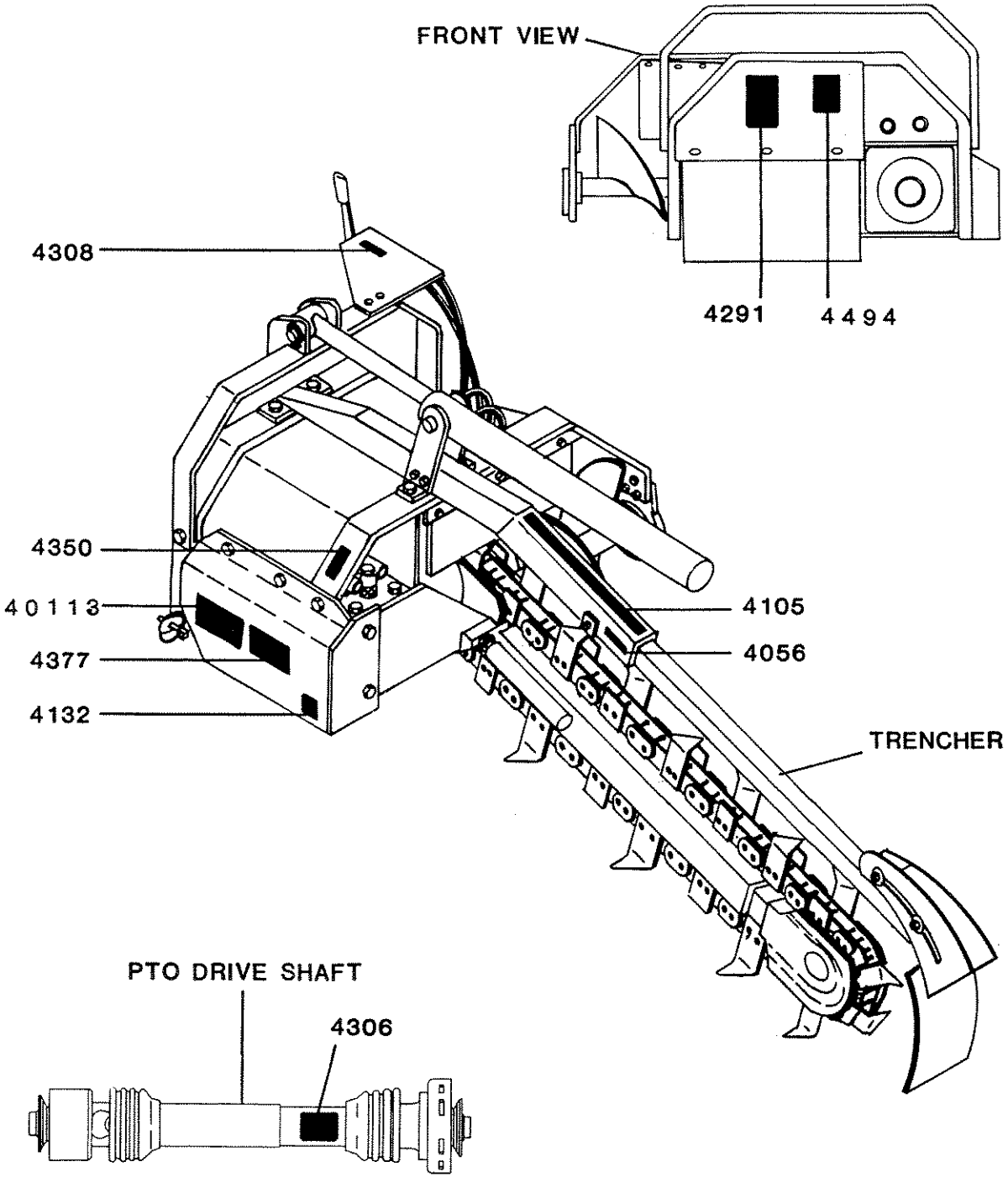
Front counter weighting may be necessary for proper transportation and operation of the tractor and trencher.

DECALS

DECAL PLACEMENT
605 TRENCHER

GENERAL INFORMATION

The diagram on this page shows the location of all the decals used on the 605 trencher. The decals are identified by their part numbers, with reductions of the actual decals located on the following pages. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the backhoe. They contain information you need to know for both safety and backhoe longevity.



605

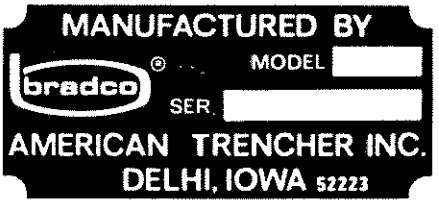
605 MODEL NO.
PART #4377

4308 11-11-92-2

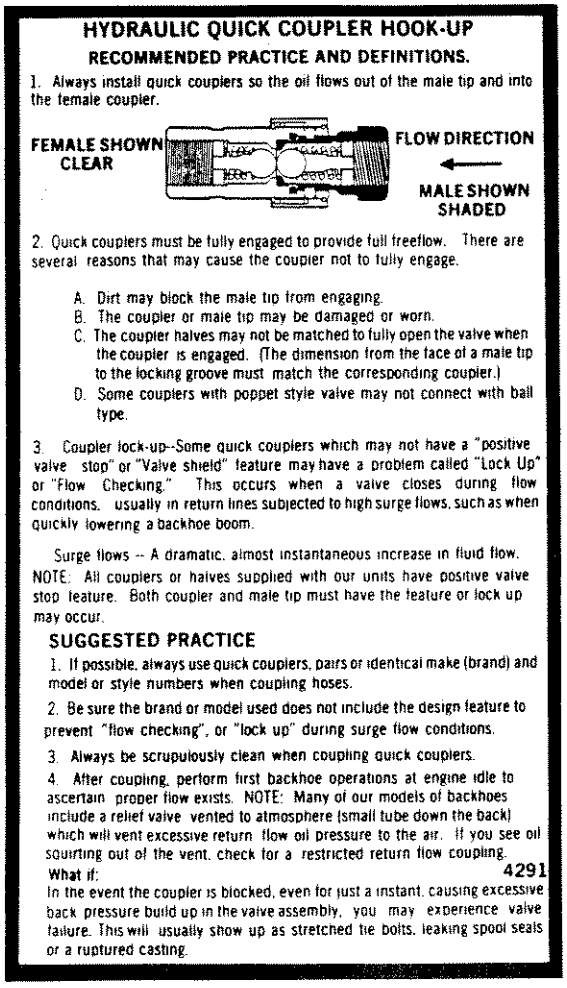
BRADCO

BRADCO LOGO
PART #40113

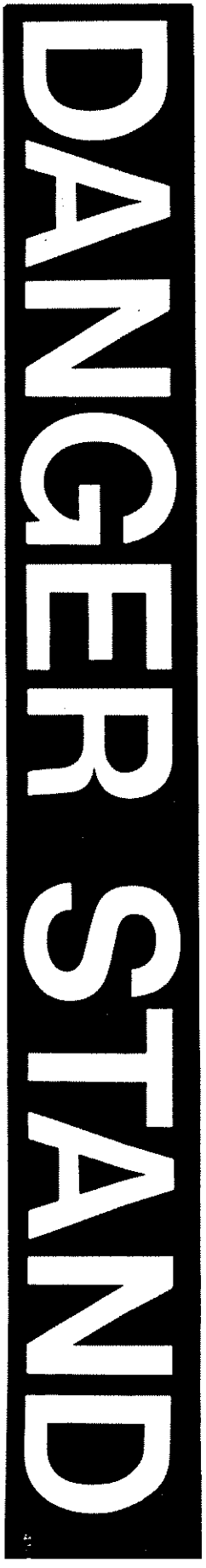
ROTATING DRIVE LINE
PART #4306



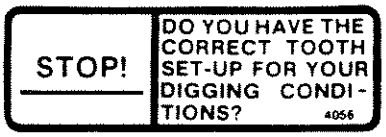
ATI SERIAL NO. TAG
PART #4350



QUICK-COUPLER
PART #4291



DANGER STAND CLEAR
PART #4105



TOOTH SET-UP
PART #4056

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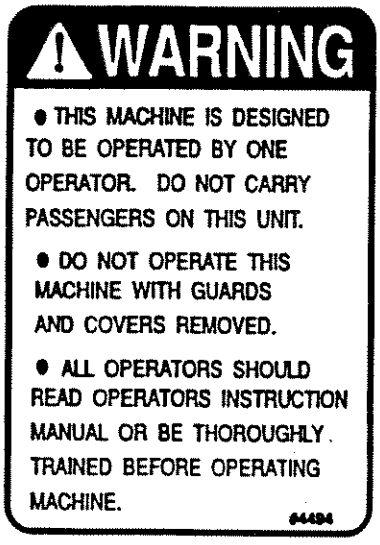
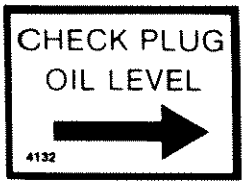
DECALS



OPERATOR'S WARNING
PART #4494



OIL LEVEL
PART #4132

BOOM CONTROL
PART #4308

PREDELIVERY CHECKLIST

GENERAL INFORMATION

The following is a list of areas that should be inspected by the dealer prior to delivery of the trencher to the customer. The customer should check the list and make sure that the dealer has completed the inspection. Completion of this checklist will help insure that the customer receives the trencher in complete working order, ready to install.

PREDELIVERY CHECKLIST - CHECK AND ADJUST AS NECESSARY

1. ___ Check the hydraulic system for correct hydraulic fluid level.

2. ___ Check and lubricate trencher, gear box, and PTO shaft if necessary. See "Lubrication" section.

3. ___ Visually inspect the trencher for bent, loose, cracked, damaged or missing parts. Check for any other irregularities.

4. ___ Remove paint from finished (chrome) surfaces of cylinders and valve spools.

5. ___ Trencher control levers operate in accordance with the control lever decals.

6. ___ Run cylinders through their full cycle to purge any air from the system.

7. ___ Check all hydraulic connections for leaks and all hoses for proper positioning to reduce chafing and binding.

8. ___ Check the trencher's digging chain adjustment.

9. ___ Check trencher attachment bolts for tightness. Retighten after the first eight working hours, and after every forty working hour intervals thereafter. See "Bolt Torque" section.

10. ___ Make sure decals are not damaged or missing and are in their correct location. See "Decals" section.

11. ___ Complete and return the manufacturers "Warranty Validation Form" and sign your dealership predelivery checklist.

12. ___ Operator to read the FIEI Trencher Safety Manual provided, before operating trencher.

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LIMITED WARRANTY

EFFECTIVE MARCH 1, 1986

All new unused American Trencher products are warranted to be free from defects in materials or workmanship which may cause failure under normal usage and service when used for the purpose intended.

In the event of failure within 12 months from initial retail sale, lease or rental date (excluding cable, ground engaging parts such as sprockets, digging chain, bearings, teeth, tamping and demolition heads, and blade cutting edges), if after examination, American Trencher determines failure was due to defective material and/or workmanship, parts will be repaired or replaced by American Trencher. American Trencher may request defective part or parts be returned prepaid to them for inspection at their place of business at Delhi, Iowa, or to a location specified by American Trencher.

Any claims under this warranty must be made within fifteen (15) days after the Buyer learns of the facts upon which such claim is based. All claims not made in writing and received by American Trencher within the time period specified above shall be deemed waived.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL AMERICAN TRENCHER BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGE.

AMERICAN TRENCHER'S LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES TO BUYER, RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING AMERICAN TRENCHER'S NEGLIGENCE, IRRESPECTIVE OF WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PARTICULAR PRODUCTS WITH RESPECT TO WHICH LOSSES OR DAMAGES ARE CLAIMED, OR, AT THE ELECTION OF AMERICAN TRENCHER, THE REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED PRODUCTS.

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