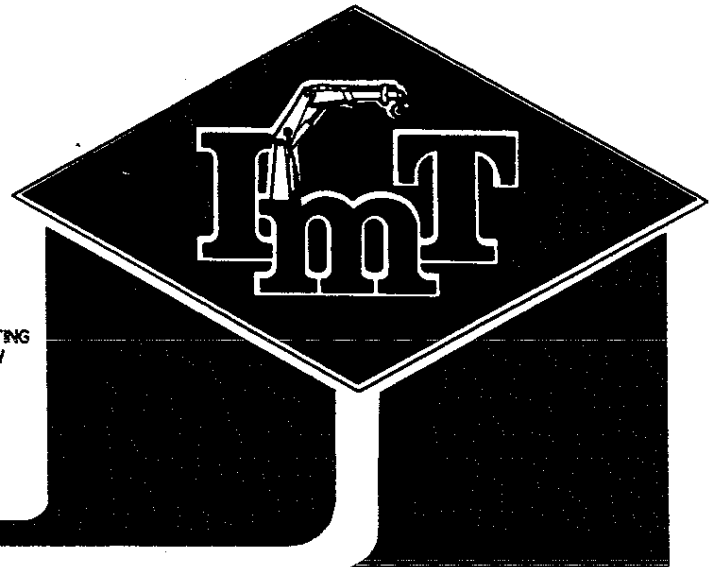
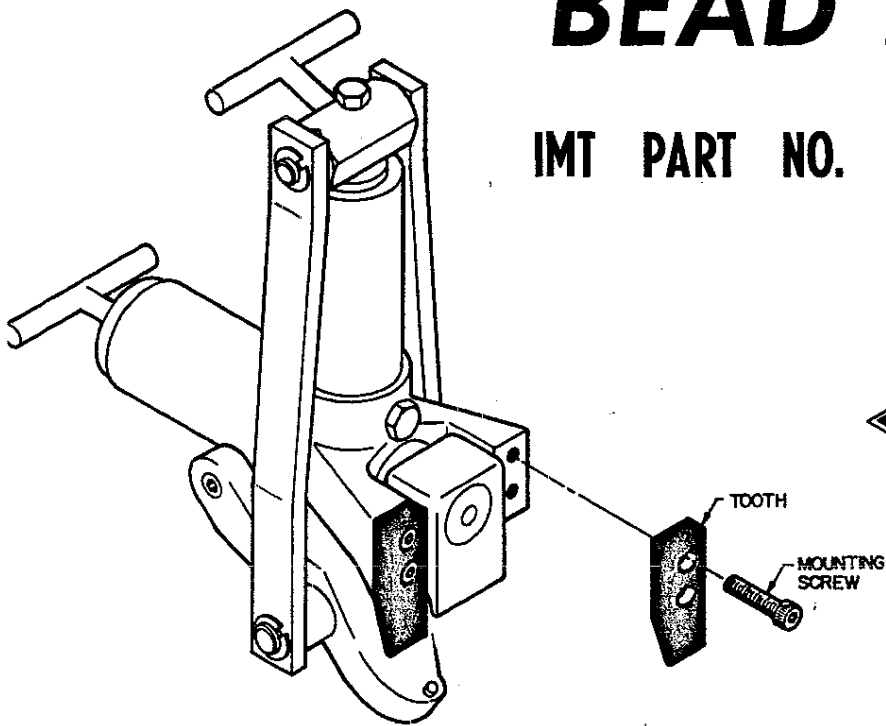


IMT-200H MODEL "C" BEAD BREAKER

IMT PART NO. 79075090



IOWA MOLD TOOLING CO., INC.

Parts, Service, and Operation Manual

THIS PARTS MANUAL IS A TEMPORARY PARTS MANUAL ONLY. THE ITEMS OR PART NUMBERS MAY BE CHANGED AT ANY TIME.

THIS MANUAL IS DESIGNED TO AID IN ORDERING REPAIR PARTS AND TO GIVE BASIC OPERATION AND SERVICE INFORMATION UNTIL THE TIME THAT THE MANUAL CAN BE FINALIZED.

TO ORDER PARTS:

1. GIVE THE MODEL NUMBER.
2. GIVE THE SERIAL NUMBER.
3. GIVE THE PART NUMBER, DESCRIPTION, AND QUANTITY NEEDED.

WE WILL NOT BE RESPONSIBLE FOR PARTS ORDERED WITHOUT THE SERIAL NUMBER!

INTRODUCTION

THE IMT 200 HP MODEL "C" BEAD BREAKER SYSTEM CONSISTS OF THE BEAD BREAKER TOOL AND THE AIR/HYDRAULIC PUMP.

THE AIR/HYDRAULIC PUMP CONSISTS OF AN IN-LINE AIR AND HYDRAULIC CYLINDER. THE RATIO OF HYDRAULIC FLUID PRESSURE GENERATED COMPARED TO SUPPLY AIR PRESSURE IS 100:1. IN OTHER WORDS, 100 PSI OUT FOR EVERY 1 PSI IN. INPUT AIR PRESSURE AT 100 PSI EQUALS 10,000 PSI OUTPUT PRESSURE.

THE NEW MODEL "C" BEAD BREAKER TOOL CONSISTS OF REPLACEABLE TEETH AND TWO CYLINDERS, A CLAMPING CYLINDER AND A BREAKER CYLINDER AT A 90 DEGREE ANGLE WITH RESPECT TO EACH OTHER. BOTH THE CLAMPING AND BEAD BREAKING ACTIONS ARE PERFORMED AUTOMATICALLY, NO MID-SEQUENCE OPERATION BY THE USER.

TABLE OF CONTENTS.....	PAGE
INTRODUCTION.....	1
SEQUENCE OF OPERATION.....	1
OPERATION OF THE UNIT.....	3
SERVICE (INTRODUCTION).....	3
DISASSEMBLY.....	5
BEAD BREAKER.....	5
CLAMPING CYLINDER.....	5
BREAKER CYLINDER.....	6
BEAD BREAKER PURGING.....	7
CLEANING.....	7
STORAGE.....	7
TROUBLE SHOOTING.....	8
BEAD BREAKER PARTS DRAWING.....	9
HYDRAULIC OIL SPECIFICATIONS.....	11

THE SEQUENCE OF OPERATION IS AS FOLLOWS (REFER TO FIGURE 1).

STEP 1:

THE AIR/HYDRAULIC PUMP SUPPLIES THE HYDRAULIC FLUID PRESSURE TO THE CLAMPING CYLINDER. FLUID PRESSURE IS RESTRICTED TO THE CLAMPING CYLINDER BY SPRING PRESSURE ON THE SEQUENCE BALL AND BY THE MATED SURFACES OF THE FLUID RETURN BALL AND ITS SEAT. AS THE CLAMPING ROD MOVES OUT OF THE CYLINDER, THE JAW CLAMPS FIRMLY ON THE RIM.

STEP 2:

THE INTERNAL HYDRAULIC PRESSURE OF THE CLAMPING CYLINDER IS SUFFICIENT TO OVERCOME THE SPRING PRESSURE AGAINST THE SEQUENCE BALL (APPROXIMATELY 2,500 PSI). THE BALL IS FORCED AWAY FROM THE SEAT AND PRESSURE INCREASES INSIDE THE BREAKER CYLINDER.

STEP 3:

THE BREAKER ROD HAS MOVED OUT OF THE CYLINDER AND THE TONGUE IS PRESSING AGAINST THE BEAD. AS PRESSURE INCREASES, THE TONGUE WILL BREAK THE BEAD OF THE TIRE FROM THE RIM.

STEP 4:

DEPRESSING THE RELEASE PEDAL CAUSED A DECREASE IN PRESSURE IN THE CLAMPING CYLINDER. WITH LESS PRESSURE ON THE CLAMPING CYLINDER SIDE OF THE FLUID RETURN BALL THAN ON THE BREAKER SIDE, THE FLUID RETURN BALL IS LIFTED OFF THE SEAT AND THE BREAKER ROD RETRACTS. RETRACTION IS DUE TO AN INTERNAL SPRING AND PRESSURE OF THE BEAD AGAINST THE TONGUE. THE BREAKER ROD RETRACTS FIRST, FOLLOWED BY THE CLAMPING ROD.

WARNING

THE AIR/HYDRAULIC PUMP IS CAPABLE OF GENERATING FLUID PRESSURE UP TO 10,000 PSI. KEEP BOTH HANDS ON THE HANDLES AND AWAY FROM THE CLAMPING JAW OR BREAKER TONGUE. MAKE CERTAIN THAT THE TOOL IS PROPERLY ALIGNED ON THE RIM BEFORE ALLOWING THE BEAD BREAKING ACTION. DO NOT CONTINUE TO OPERATE THE AIR/HYDRAULIC PUMP ONCE THE BREAKER ROD IS COMPLETELY EXTENDED. FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY OR DAMAGE TO THE EQUIPMENT.

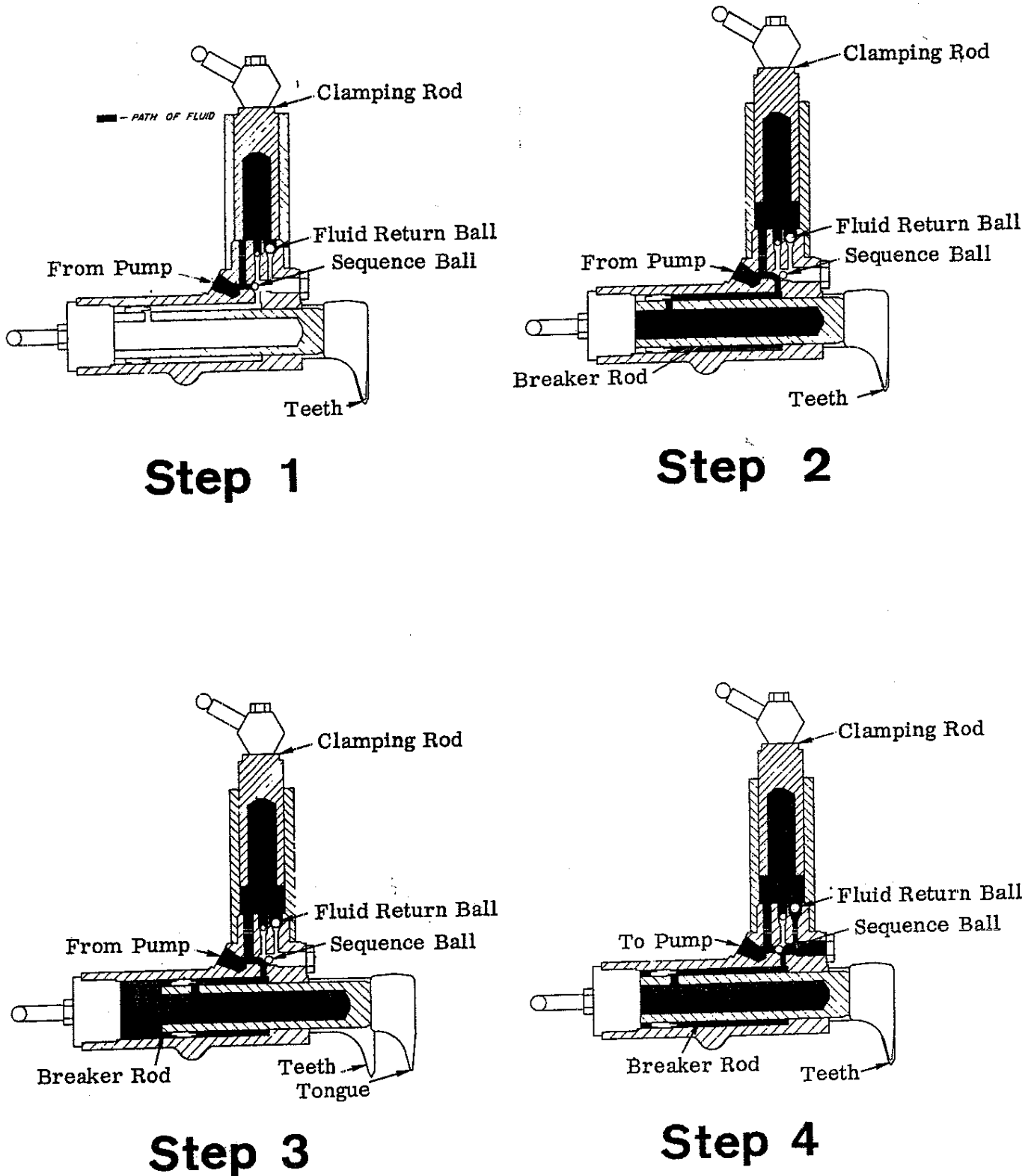


Figure 1. Sequence of Operation

OPERATION OF THE UNIT IS AS FOLLOWS:

1. MAKE CERTAIN THAT THE TIRE IS COMPLETELY DEFLATED.
2. CONNECT THE HOSE OF THE AIR/HYDRAULIC PUMP TO THE HYDRAULIC COUPLING ON THE TOOL. CONNECT THE AIR SUPPLY LINE TO THE AIR/HYDRAULIC PUMP. AIR SUPPLY SHOULD BE 5-10 CFM AT 100 PSI TO OBTAIN PROPER OPERATING CHARACTERISTICS. IN ADDITION, THE AIR LINE SHOULD BE EQUIPPED WITH AN AIR LINE FILTER.
3. POSITION THE BEAD BREAKER SO THAT THE CUP POINT SET SCREW IN THE JAW MAKES SOLID CONTACT WITH THE RIM AND THE TEETH ARE POSITIONED IN THE CREVICE BETWEEN THE BEAD OF THE TIRE AND THE RIM.

NOTE

WHEN A TIRE HAS A TRASH GUARD, YOU MAY HAVE TO DRIVE TWO STRAIGHT TIRE IRONS BETWEEN THE RIM AND THE TIRE BEAD TO GET A STARTING POINT FOR THE TEETH.

4. STEP ON THE "PUMP" END OF THE PEDAL. THE CLAMPING ROD WILL BEGIN TO EXTEND AND THE JAW WILL GRIP THE RIM.

CAUTION

MAKE CERTAIN THAT THE TEETH ARE SLIPPING IN BETWEEN THE RIM AND THE BEAD. IF NOT, DEPRESS THE "RELEASE" END OF THE PUMP PEDAL AND REALIGN THE TOOL. IF THE TOOL IS NOT POSITIONED CORRECTLY, EXTENDING THE BREAKER ROD MAY DAMAGE THE TOOL OR CAUSE PERSONAL INJURY.

5. CONTINUE PUMPING UNTIL THE TONGUE OF THE BREAKER PUSHES THE BEAD FREE OF THE RIM.
6. DEPRESS THE "RELEASE" END OF THE PUMP PEDAL.

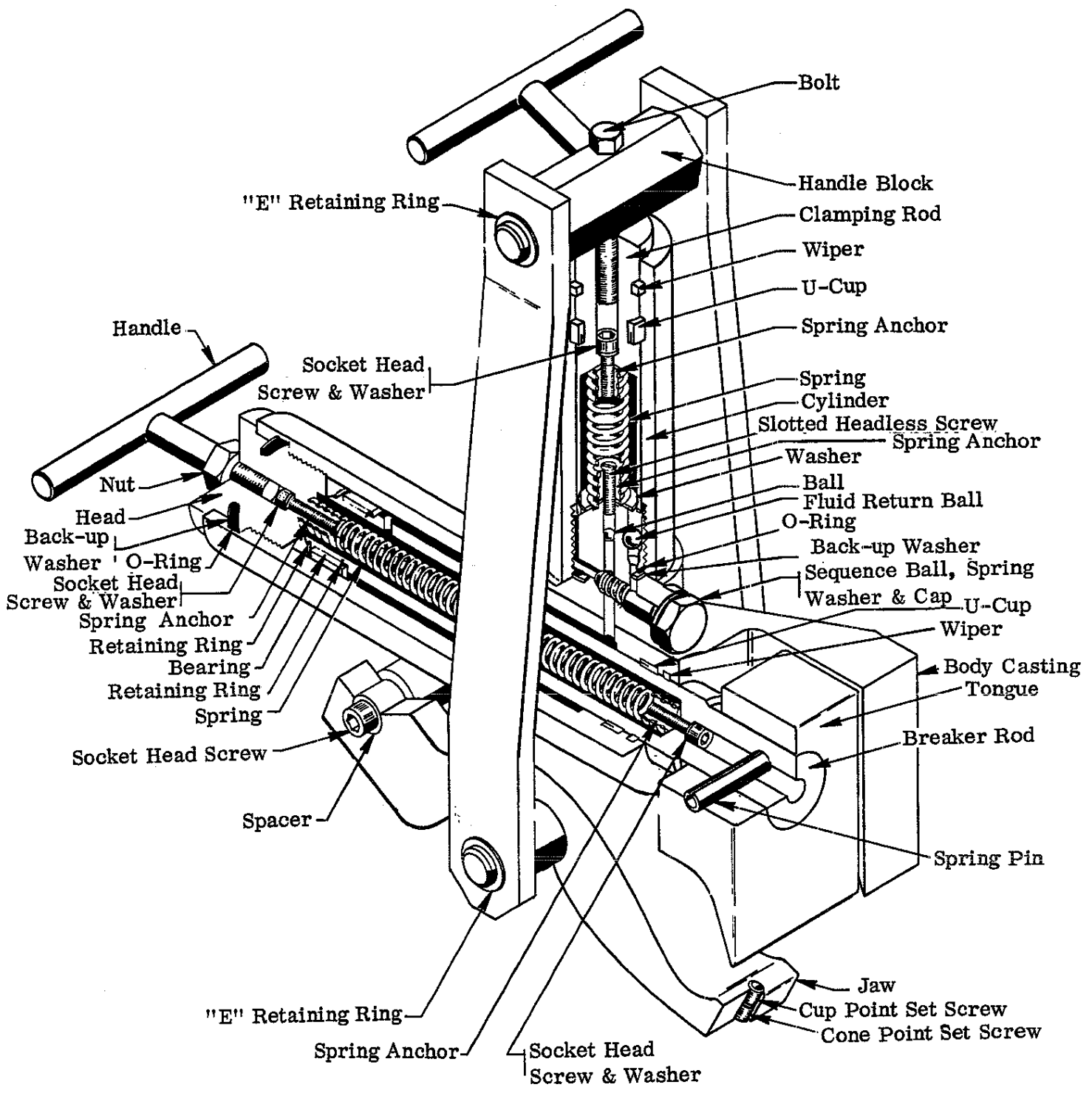


Figure 2. Bead Breaker

SERVICE

MOST MALFUNCTIONS ARE A DIRECT RESULT OF FOREIGN MATTER - DIRT, DUST, WATER, ETC. - ENTERING THE TOOL THROUGH THE OPEN HYDRAULIC COUPLER UNION. KEEP THE UNION CLEAN AND CAPPED WHEN THE PUMP IS NOT CONNECTED TO THE TOOL. IF THE AIR/HYDRAULIC PUMP IS TO BE USED ONLY WITH THE BEAD BREAKER, IT IS RECOMMENDED THAT THE PUMP BE PERMANENTLY ATTACHED TO THE TOOL. THIS IS ACCOMPLISHED BY REMOVING THE QUICK DISCONNECT COUPLER UNION, THE 45 DEG ELBOW AND THE NIPPLE, INSERTING A SWIVEL AND ATTACHING THE HOSE FROM THE PUMP DIRECTLY TO THE SWIVEL. USE A PIPE THREAD COMPOUND WHEN ASSEMBLING. THIS WILL ELIMINATE THE POSSIBILITY OF CONTAMINATION THROUGH THE OPEN COUPLING.

THE BEAD BREAKER IS RELATIVELY EASY TO SERVICE. SOME TOOLS WILL BE REQUIRED FOR DISASSEMBLY AND ASSEMBLY. THESE ARE:

1. SPANNER WRENCH
2. COMMON SCREWDRIVER
3. NEEDLE-NOSED PLIERS
4. ICE PICK OR SHARP AWL
5. ALLEN WRENCHES
6. OPEN END WRENCHES
7. RETAINING RING PLIERS
8. SOCKET WRENCHES
9. RATCHET
10. TORQUE WRENCH

DISASSEMBLY AND ASSEMBLY

TO DISASSEMBLE THE CLAMPING CYLINDER: (REFER TO FIGURE 2)

1. BEFORE DISASSEMBLING THE BEAD BREAKER, THE OUTSIDE MUST BE THOROUGHLY CLEANED TO PREVENT CONTAMINATING THE INTERIOR. USE WARM, SOAPY WATER, RINSE WITH CLEAR WATER AND WIPE OR BLOW THE TOOL DRY.

CAUTION

PROCEED WITH DISASSEMBLY IN A WARM, CLEAN ENVIRONMENT - ONE THAT IS FREE OF DUST, DIRT, GREASE, SOLVENTS, ETC. AND HAS A TEMPERATURE OF AT LEAST 70 DEG F.

2. REMOVE THE FOUR "E" RETAINING RINGS THAT SECURE THE CLAMPING ARMS. REMOVE THE ARMS.
3. UNSCREW THE BOLT AT THE TOP OF THE CYLINDER AND REMOVE THE HANDLE BLOCK.

4. PROBE IN THE HOLE AT THE TOP OF THE CLAMPING ROD WITH A 5/32" ALLEN WRENCH (LONG LEG IN THE HOLE). UNSCREW AND REMOVE THE SOCKET HEAD SCREW AND WASHER.
5. REINSTALL THE BOLT AND HANDLE BLOCK REMOVED IN A PREVIOUS STEP. PULL THE ROD OUT OF THE CYLINDER USING THE HANDLE BLOCK.
6. UNSCREW THE CYLINDER WITH A SPANNER WRENCH. WORK THE O-RING AND BACK-UP WASHER OVER THE THREADED PORTION OF THE BODY CASTING AND REMOVE THEM.
7. GRIP THE LIP OF THE WIPER WITH THE NEEDLE-NOSED PLIERS AND PULL THE WIPER FROM THE GROOVE IN THE CYLINDER.
8. PUNCTURE THE U-CUP WITH AN ICE PICK OR SHARP AWL. PRY IT OUT OF THE GROOVE AND PUSH IT ON THROUGH THE CYLINDER.
9. IF IT IS NECESSARY TO REMOVE THE SPRING, GRIP IT AND TURN IT COUNTERCLOCKWISE.

TO ASSEMBLE THE CLAMPING CYLINDER:

NOTE

USE ALL OF THE SEALS SUPPLIED IN THE SEAL KIT. IT MAY AVOID COSTLY REPAIRS IN THE NEAR FUTURE.

1. THREAD THE BOTTOM SPRING ANCHOR ON THE SLOTTED HEADLESS SCREW AND ROTATE THE SPRING CLOCKWISE UNTIL IT IS TIGHT.
2. INSTALL THE BACK-UP WASHER AND O-RING OVER THE THREADED PORTION OF THE BODY CASTING.

CAUTION

WORK THE O-RING AND BACK-UP WASHER SLOWLY INTO POSITION. AVOID STRETCHING THEM EXCESSIVELY.

3. POSITION THE CYLINDER WITH THE WIPER POCKET UP. GRASP THE U-CUP WITH THE NEEDLE-NOSED PLIERS (FIGURE 3) AND INSERT IT INTO THE CYLINDER. ALLOW IT TO SNAP INTO PLACE, HELPING WITH THE FINGERS IF NECESSARY.

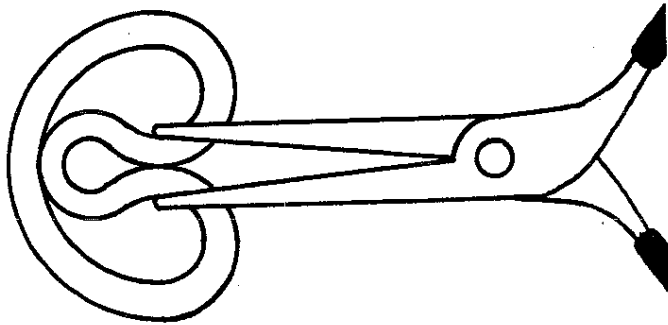


FIGURE 3. U-Cup Installation

4. LUBRICATE THE THREADS ON THE CYLINDER AND THE BODY WITH STP.[®] SCREW THE CYLINDER ONTO THE BODY CASTING BY HAND. GET IT AS TIGHT AS POSSIBLE. TORQUE THE CYLINDER TO 125-175 FT.LBS.
5. SLIDE THE ROD CAREFULLY THROUGH THE WIPER AND U-CUP AND OVER THE SPRING UNTIL IT BOTTOMS OUT. INSERT THE WASHER AND SOCKET HEAD SCREW INTO THE HOLE IN THE TOP OF THE ROD. WITH A 5/32" ALLEN WRENCH, TURN THE SOCKET HEAD SET SCREW CLOCKWISE INTO THE SPRING ANCHOR. TORQUE TO 90-100 IN.LBS.
6. POSITION THE HANDLE BLOCK OVER THE HOLE AT THE TOP OF THE ROD AND SECURE IT WITH THE BOLT. DO NOT TIGHTEN THE BOLT.
7. SLIDE THE CLAMPING ARMS OVER THE JAW PIN AND HANDLE BLOCK PIN AND SECURE THEM WITH THE FOUR "E" RETAINING RINGS.
8. TIGHTEN THE BOLT THROUGH THE HANDLE BLOCK (30-40 FT.LBS.).
9. INSTALL THE SEQUENCE BALL, SPRING, WASHER AND CAP. TORQUE TO 35-40 FT.LBS.
10. PURGE THE SYSTEM OF AIR (SEE PAGE 9).

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TO DISASSEMBLE THE BREAKER CYLINDER: (REFER TO FIGURE 2)

1. LOOSEN THE JAM NUT ON THE "T" HANDLE AND REMOVE THE HANDLE.
2. PROBE INSIDE THE HOLE IN THE HEAD WITH A 5/32" ALLEN WRENCH AND REMOVE THE SOCKET HEAD SCREW AND WASHER.
3. REMOVE THE HEAD WITH A SPANNER WRENCH.
4. GRIP THE TONGUE AND PULL IT FORWARD. DRIVE OUT THE SPRING PIN SECURING THE TONGUE TO THE ROD AND SLIDE THE TONGUE OFF THE ROD.
5. PUSH THE ROD BACK INTO THE CYLINDER AND PULL IT OUT THE OTHER END.

CAUTION

DO NOT ATTEMPT TO REMOVE THE RETAINING RINGS OR BEARING FROM THE ROD. SPECIAL TOOLS ARE REQUIRED FOR THIS OPERATION. RETURN THE ENTIRE TOOL TO THE NEAREST SERVICE CENTER.

6. PROBE IN THE TONGUE END OF THE ROD WITH A 5/32" ALLEN WRENCH AND REMOVE THE SOCKET HEAD SCREW AND WASHER.
7. POSITION THE TOOL WITH THE TEETH UP. GRIP THE LIP OF THE WIPER WITH THE NEEDLE-NOSED PLIERS, AND PULL IT OUT OF THE GROOVE.
8. PUNCTURE THE U-CUP WITH AN ICE PICK OR SHARP AWL. PRY THE U-CUP FROM THE GROOVE AND PUSH IT ON THROUGH THE CYLINDER.
9. WORK THE O-RING AND BACK-UP WASHER OFF THE HEAD.

TO ASSEMBLE THE BREAKER CYLINDER: (REFER TO FIGURE 2)

NOTE

USE ALL OF THE SEALS SUPPLIED WITH THE SEAL KIT. IT MAY AVOID COSTLY REPAIRS IN THE NEAR FUTURE.

1. HOLD THE SPRING INSIDE THE ROD. INSERT THE SOCKET HEAD SCREW AND WASHER INTO THE HOLE IN THE TONGUE END OF THE ROD AND TORQUE TO 90-100 IN.LBS.

2. POSITION THE CYLINDER WITH THE TEETH UP. GRIP THE U-CUP WITH THE NEEDLE-NOSED PLIERS (FIGURE 3) AND INSERT IT INTO THE CYLINDER. ALLOW IT TO SNAP INTO PLACE HELPING WITH THE FINGERS IF NECESSARY.
3. INSTALL THE WIPER.
4. INSERT THE ROD ASSEMBLY FROM THE HEAD END OF THE CYLINDER AND SLIDE IT THROUGH THE U-CUP AND WIPER.
5. SLIP THE TONGUE ONTO THE ROD AND FASTEN IT IN PLACE WITH THE SPRING PIN.
6. WORK THE BACK-UP WASHER AND O-RING ONTO THE HEAD.

CAUTION

 WORK THEM SLOWLY INTO POSITION. AVOID STRETCHING THEM EXCESSIVELY.

7. LUBRICATE THE HEAD AND CYLINDER THREADS WITH STP.[®] SCREW THE HEAD INTO THE CYLINDER AND TORQUE AT 175-225 FT.LBS.
8. INSTALL THE SOCKET HEAD SCREW AND WASHER AND TORQUE TO 90-110 IN.LBS.
9. THREAD THE "T" HANDLE INTO THE HEAD UNTIL IT BOTTOMS OUT. TIGHTEN THE LOCK NUT.
10. PURGE THE TOOL OF AIR (SEE PAGE 9).

HEAD BREAKER PURGING

1. CONNECT THE AIR/HYDRAULIC PUMP TO THE TOOL.
2. CONNECT THE PUMP TO THE AIR SUPPLY.
3. POSITION THE PUMP SO THAT IT IS HIGHER THAN THE TOOL AND DEPRESS THE "PUMP" END OF THE PEDAL.
4. AFTER THE CLAMPING AND BREAKER RODS ARE FULLY EXTENDED, DEPRESS THE "RELEASE" END OF THE PEDAL. REPEAT THIS CYCLE (PUMP-RELEASE) ABOUT FIVE TIMES.
5. EXTEND BOTH RODS AND KEEP THEM EXTENDED. CHECK FOR LEAKS. MAKE CERTAIN THAT THE RODS DO NOT "CREEP" BACK INTO THE CYLINDERS.

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CLEANING

WASH THE EXTERIOR OF THE BEAD BREAKER AND PUMP WITH WARM, SOAPY WATER. RINSE WITH CLEAN WATER AND BLOW THE TOOL DRY WITH AN AIR NOZZLE. PAY PARTICULAR ATTENTION TO THE RELEASE VALVE AREA OF THE PUMP. THIS MAY GET SO FULL OF DIRT THAT THE RELEASE MECHANISM WILL NO LONGER FUNCTION.

CAUTION

DO NOT USE SOLVENTS. SOLVENTS MAY BE CORROSIVE TO THE SEALS AND DAMAGE THEM.

STORAGE

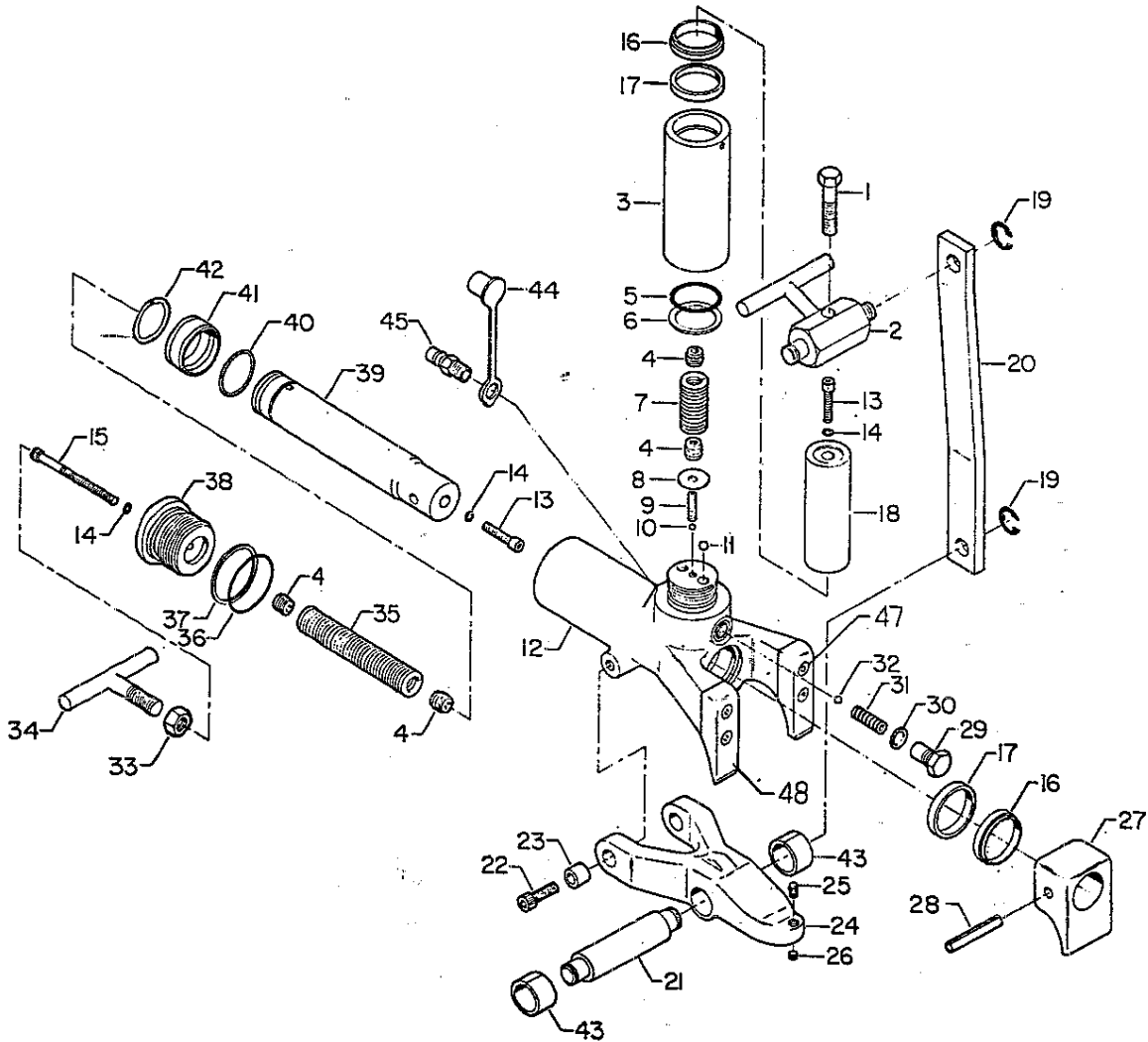
ANYTIME THE TOOL IS PUT AWAY, A NUMBER OF CHECKS MUST BE MADE:

1. COMPLETELY RETRACT BOTH RODS. AN EXPOSED ROD MAY BE SUBJECT TO RUSTING, PITTING AND DAMAGE FROM STRIKING OTHER TOOLS.
2. IF CHLORIDE IS SPILLED ON THE TOOL, RINSE WITH CLEAN WATER AND BLOW DRY.
3. NICKS AND DENTS IN THE ROD SURFACES SHOULD BE CAREFULLY DRESSED WITH FINE GRIT EMERY PAPER. IF LEFT UNTENDED, THEY PROVIDE A STARTING POINT FOR RUST.

NOTE

THE CHROME PLATED ROD SURFACES PROVIDE THE SEAL FOR THE TOOL. ANY STEPS TAKEN TO ENSURE THE CONTINUING QUALITY OF THE ROD SURFACES WILL INCREASE THE SERVICE LIFE OF THE TOOL.

THIS SECTION CONTAINS THE PARTS DRAWINGS AND LISTS FOR THE IMT 200H SERIES "C" BEAD BREAKER. FOR THE AIR/HYDRAULIC PUMP (MODEL IMT-200 AIR PUMP) SEE MANUAL IMT #99900120.



IMT PART NO. 79075090

IMT MODEL 200 BEAD BREAKER - MODEL "C"

ITEM	PART NO.	DESCRIPTION	QTY
1	72060066	CAP SCR--.44-14 X 2.00 HH GR 5	1
2	7Y036949	HANDLE-BEAD BREAKER (TOP)	1
3	7Y036861	CYLINDER-JAWS	1
4	7Y201360	RETAINER-SPRING	4
*5	7Q072220	O RING-1.38 X 1.62 X .12 70	1
*6	7Q10P220	WASHER-BACK UP	1
7	7Y201430	SPRING-EXTENSION	1
8	7Y017160	WASHER-EXTENSION SPRING	1
9	72060562	SET SCR--.25-20 X 1.00 SH	1
10	72066435	BALL--.19 DIA	1
11	72066439	BALL--.31 DIA	1
12	70143090	BODY-BEAD BREAKER (MODEL C)	1
13	72060708	CAP SCR--.25-20 X 1.25 SH	2
*14	70024221	WASHER-CU	3
15	72060907	CAP SCR--.25-20 X 3.50 SH	1
*16	7R13P015	ROD WIPER-1.50"	2
*17	7R535015	PACKING-"U" CUP	2
18	7Y036862	PISTON-JAW	1
19	72066560	RETAINING RING-"E" .62	4
20	7Y036866	STRAP-CLAMP JAW	2
21	7Y205288	PIN-CLAMP JAW	1
22	72060753	CAP SCR--.38-16 X 1.00 SH	1
23	7Y204238	SPACER-CLAMP JAW	2
24	7Y436050	JAW-CLAMP	1
25	72060985	SET SCR--.38-16 X .50 SH	1
26	72060983	SET SCR--.38-16 X .38 SH	1
27	7Y036853	CLAW-BEAD BREAKER	1
28	72066319	ROLL PIN--.38 X 2.25	1
29	7Y021599	CAP-VALVE SPRING	1
*30	70024222	WASHER-CU	1
31	7Y016724	SPRING-COMPRESSION	1
*32	72066437	BALL--.25 DIA	1
33	72062024	NUT--.50-13 HEX JAM	1
34	7Y202636	HANDLE-BEAD BREAKER (REAR)	1
35	7Y202625	SPRING-EXTENSION	1
*36	7Q072224	O RING-1.75 X 2.00 X .12 70	1
*37	7Q10P224	WASHER-BACK UP	1
38	7Y036864	PLUG-BEAD BREAKER	1
39	7Y038052	PISTON-RAM	1
40	7Y204237	RETAINING RING-PISTON	1
41	7Y204236	BEARING-RAM PISTON	1
42	7Y201433	RETAINING RING-PISTON	1
43	7Y205895	SPACER-PIN	2
44	72532797	DUST CAP	1
45	72532796	NIPPLE-DISCONNECT	1
46	-----		
47	72060794	CAP SCR--.50-13 X 1.25 SH	4
48	70143089	TOOTH-BEAD BREAKER MODEL C	2

* PART OF SEAL KIT-IMT #9A050973

TROUBLESHOOTING

TABLE 1 LISTS PROBLEMS, PROBABLE CAUSES AND SOLUTIONS OF THE BEAD BREAKER AND PUMP. REFER TO PARTS BREAKDOWN FOR ITEM NUMBERS.

TABLE 1. TROUBLESHOOTING CHART

SYMPTOMS	PROBABLE CAUSE
Rods extend too slow	Insufficient hydraulic pressure from pump 1. Check air supply (5-10 CFM at 100 PSI) 2. Check clearance of inlet check ball (item 9, Figure 6). Ball must be flush with or below end of filter adapter.
Rods fail to retract	Hydraulic pump doesn't release 1. Dirt under pump pedal in release valve area - clean. Bearing is misaligned on breaker rod (item 41, Figure 5) - correct or replace. Broken or weak springs (item 7 or 35) - replace.
Both rods extend at the same time.	Hydraulic pressure in breaker cylinder increases before clamping rod is fully extended. 1. Sequence ball (item 32, Figure 5) not seated or broken or weak spring (item 31, Figure 5) - correct or replace. 2. Loose screw (item 9, Figure 5) and ball not seated (item 10, Figure 5) - correct or replace.
Breaker rod retracts after clamping rod.	Hydraulic pressure in breaker cylinder is not being released. 1. Fluid return ball (item 11, Figure 5) didn't unseat - correct or replace. 2. Dirt plug in return port - clean. Weak or broken spring in breaker cylinder - replace.
Pump does not reciprocate.	Air piston stuck 1. Check cylinder bore of pump (item 60, Figure 6) for contamination or lack of lubrication. 2. Piston poppet (item 31, Figure 6) not sealing - replace.
Pump reciprocates - ram will not extend.	Check prime 1. Depress both air valve and hydraulic release valve at the same time.
Pump extends ram but will not hold - system pressure leaks off	1. Outlet check ball (item 6, Figure 6) not sealing properly - correct or replace. 2. Release valve mechanism not sealing properly. Check pin (item 54, Figure 6), ball (item 50), release poppet (item 49) and poppet retainer (item 48) - correct or replace.
Pump extends ram, but will not build to maximum pressure - no visible signs of leakage.	1. Check air supply - 5-10 CFM at 100 PSI. 2. Check for internal leakage. A. Release valve mechanism. B. Low relief valve setting (item 7, Figure 6). C. Inlet check ball (item 9, Figure 6) not seating properly - correct or replace.
Pump extends ram, but will not build to maximum pressure - visible sign of leakage through air exhaust muffler.	1. Check piston sub-assembly A. Replace copper gasket (item 14, Figure 6) and assemble in vertical position. B. Replace piston packing (item 16, Figure 6).

Oil Specifications

Table 5. Hydraulic Oil Specifications

Ambient temperature range	0-90	Below 32	32-90	Above 90
Min. Pour Point, ° F	-30	-25 +	+10	+10
Max. Viscosity, SSU @ 0° F	4000	4000	-	-
Min. Viscosity, SSU @ 100° F	140-195	100-130	150-200	200-315
Min. Viscosity, SSU @ 210° F	48	41 43	43	47
Min. Viscosity Index	139	90	90	90

OIL SELECTION: Minimum viscosity specifications for hydraulic oil to be used in the IMT 200 HP System are given in table 5. Any major oil company can supply products which meet these requirements.

Oils selected by user for this class of equipment, in addition to meeting viscosity requirements, should have the following additives:

1. Antifoam inhibitors
2. Antioxidant inhibitors
3. Rust resistant additives
4. Antiwear additives

OIL SPECIFICATIONS: Table 5 provides oil specifications for a full range of operating temperatures encountered in the temperate zones. Arctic conditions present special requirements which are not within the scope of the table and must be given special consideration and individual analysis. Consult your oil supplier for the proper fluid for working under these severe conditions.

Contamination of the hydraulic oil by solvents, water, dust or other abrasives will result in a premature breakdown of the oil's antifoam, lubrication, anti-rust and viscosity prop-

erties. Prolonged exposure to water or high operating temperatures (above 180°F) will cause an increase in the oxidation rate, producing varnish forming materials and sludge in the oil.

Periodically a sample of the hydraulic oil in the system should be drawn off and its condition checked for breakdown. To check oil quality:

1. Place oil sample in a clean glass
2. Smell oil to detect a burnt or rancid odor.
3. Examine the oil for a cloudy or dark color.
4. Allow the sample to stand for several minutes and inspect it for water which will settle to the bottom. Water can result from a leak in the system or condensation due to temperature extremes.

When any of these conditions is observed, the system should be purged and filled with new oil.

In addition, the oil should be changed in the reservoir and complete system after 800 hours of operation (or every six months whichever ever occurs first) and after pump or other major hydraulic component failure.

