

## TROUBLE SHOOTING GUIDE HYDRAULIC TA

PROBLEM	CAUSE	SOLUTION
1. TA COMES APART DURING SHIPPING OR INSTALLATION.	A. HOSE CLAMP BROKEN OR LOOSE.	A. CALL AG PARTS FOR REPLACEMENT TA.
2. TA IS TIGHT WHEN BOLTED IN.	A. QUILL GEAR IS NOT ENGAGED IN ALL DISCS OF DD CLUTCH PACK.  B. TA UNIT IS TOO LONG FOR TA HOUSING.	A. ENGAGE QUILL GEAR IN ALL DISCS OF CLUTCH PACK. ALL TA'S PRODUCED BY AG PARTS HAVE FOUR (4) DISCS IN DD CLUTCH PACK EXCEPT STANDARD TA WHICH HAS THREE (3) DISCS IN DD CLUTCH PACK. B. CALL AG PARTS FOR REPLACEMENT TA.
3. TA REQUIRES SHIMS OF .100 OR MORE.	A. TA HOUSING TOLERANCES NOT CONSISTENT.	A. CALL AG PARTS FOR REPLACEMENT TA (NEVER SHIM TA OVER .100. 4TH GEAR MAY NOT ENGAGE QUILL PROPERLY.
4. GEAR NOISE AFTER NEW TA INSTALLATION (LOUDER IN DD).	A. LOWER SHAFT TOO TIGHT (DOESN'T ALLOW GEARS TO CENTER).  B. POOR CONSTANT MESH GEAR ALIGNMENT AFTER SHIMMING TA.  C. WORN DD GEARS.	A. RUN TRACTOR TO CENTER GEARS ON SHAFT. MAY REQUIRE 100 HRS OR MORE. B. SHIM GEARS WITH 830410 SHIMS TO ACHIEVE PROPER ALIGNMENT OF CONSTANT MESH GEARS. C. REPLACE DD GEARS.
5. LOWER GEAR HITS TA DRUM.	A. PROBLEM WAS AMPLIFIED BY REMOVING TA ENDPLAY.	A. SHIM GEARS ON LOWER SHAFT WITH 830410 SHIMS (IF LOWER GEAR STILL HITS TA DRUM, CALL AG PARTS FOR REPLACEMENT LOWER GEAR.
6. FREEWHEELING ON LOW SIDE OF TA.	A. SELECTOR SPOOL NOT PROPERLY ADJUSTED.  B. 86 SERIES SELECTOR SPOOL CABLE STRETCHED OR BROKEN.  C. DUMP VALVE IMPROPERLY ADJUSTED.  D. LOW CLUTCH PRESSURE.  E. TRACTOR OVER BALLASTED. (FLUID IN TIRES, TOO MANY WEIGHTS ON TRACTOR.	A. ADJUST SELECTOR SPOOL TO SPECIFICATION (YOU MUST OBTAIN 1 1/8" UP TRAVEL FIRST). B. REPLACE WITH NEW CABLE AND ADJUST TO CORRECT SPECIFICATION (1 1/8" UP TRAVEL FIRST). C. ADJUST DUMP VALVE TO CORRECT SPECIFICATION. D. INCREASE PRESSURE BY REPLACING REGULATOR SPRINGS. E. REMOVE FLUID AND WEIGHTS FROM TRACTOR (IF TRACTOR STILL FREEWHEELS, CALL AG PARTS FOR SUPER TA REPLACEMENT).
7. ENGINE LABORS IN NEUTRAL AFTER TA INSTALLATION OR AFTER NEW MCV GASKETS INSTALLED.	A. INCORRECT MCV GASKET OR GASKETS INSTALLED.	A. REMOVE MCV, CHECK GASKETS TO BE SURE GASKET FOR TRACTORS WITHOUT TA WASN'T INSTALLED.
8. MCV GASKETS BLOWN.	A. SEALING COMPOUND ON GASKETS CAUSING HIGH SPOTS.  B. MCV NOT TORQUED PROPERLY.  C. MOUNTING SURFACE, MCV PLATE OR PLATES NOT FLAT.	A. SCRAPE SEALING COMPOUND FROM GASKETS OR INSTALL GASKETS WITHOUT COMPOUND. B. INSTALL MCV USING APPROXIMATELY 22 LBS TORQUE ON BOLTS. C. CHECK MOUNTING SURFACE & MCV PLATE OR PLATES W/STRAIGHT EDGE. REPLACE OR GRIND FLAT.

## TROUBLE SHOOTING GUIDE HYDRAULIC TA CONT'D

PROBLEM	CAUSE	SOLUTION
9. HYDRAULIC OIL LEAK IN CLUTCH HOUSING.	A. IPTO SEAL DEFECTIVE. B. IPTO BEARING CARRIER WORN.  C. FRONT SEAL RING OF TA NOT SEALING.  D. SNAP RING LEFT OFF IPTO HOUSING (IPTO WILL MOVE BACK AND FORTH).	A. REPLACE IPTO SEAL. B. REPLACE IPTO BEARING CARRIER AND CHECK IPTO BEARING. C. FIRST, TEST UNIT BY USING TA ON LOW SIDE. OIL WILL LEAK ONLY ON DD OR HIGH SIDE. IF LEAK DISAPPEARS ON LOW SIDE, TA MUST BE REPLACED. D. INSTALL SNAP RING.
10. TRACTOR HESITATES OR STOPS WHEN SPRAGLESS TA IS SHIFTED.	A. SLOW SHIFTING OF TA SHIFT LEVER BY OPERATOR.  B. WORN LINKAGE.	A. SHIFT TA LEVER RAPIDLY TO AVOID CENTER POSITION. ALSO MUST INSTALL MODIFIED SELECTOR SPOOL. B. REPLACE LINKAGE.
11. DOUBLE SHIFT.	A. INCORRECT DUMP VALVE SETTING.	A. TA CLUTCH PACKS SHOULD LOCK UP BEFORE ENGINE CLUTCH ENGAGES. CALL AG PARTS SERVICE DEPARTMENT FOR HELP.
12. CAVITATION OF HYDRAULIC PUMP.	A. SUCKING AIR THROUGH FILTER HOUSING. B. SUCKING AIR THROUGH SUCTION TUBE. O-RING LEFT OUT BETWEEN TA TUB AND REAR CASTING. C. TRACTORS EQUIPPED WITH SUPERCHARGE LINE.	A. REPLACE FILTER O-RING OR GASKET. B. INSTALL O-RING BETWEEN TA HOUSING AND REAR HOUSING. C. REPLACE SUPERCHARGE LINE WITH 830601 ELIMINATION KIT.
13. SLIPS OR STOPS ON LOW SIDE (TA) OF TA.	A. SPRAG CLUTCH FAILURE IN TA.	A. REPLACE TA.
14. SLIPS ON HIGH SIDE (DD) OF TA.	A. SELECTOR SPOOL NOT ADJUSTED PROPERLY. B. LOW OR LOSS OF CLUTCH PRESSURE.  C. DUMP VALVE STUCK OPEN OR MISADJUSTED D. CLUTCH PACK WORN OUT.	A. ADJUST SELECTOR SPOOL. B. ADJUST CLUTCH PRESSURE TO CORRECT SPECIFICATION. C. CHECK OR ADJUST. D. REPLACE TA.
15. SLIPPING ON HIGH (DD) AND LOW SIDE (TA) OF TA.	A. ENGINE CLUTCH SLIPPING. B. SPRAG FAILURE PLUS HIGH SIDE (DD) CLUTCH PACK NOT FUNCTIONAL.	A. REPLACE ENGINE CLUTCH. B. CHECK PRESSURES TO DETERMINE HYDRAULIC PROBLEM ON THE HIGH SIDE (DD). REPLACE TA.
16. LOW CLUTCH PRESSURES (REST OF HYDRAULIC SYSTEM FUNCTIONAL).	A. MCV TORQUED TOO TIGHT, REGULATOR STICKS. B. REGULATOR SPRINGS WEAK. C. REGULATOR SPOOL BINDING IN BORE.	A. RE-TORQUE MCV TO CORRECT SPECIFICATION. B. REPLACE REGULATOR SPRINGS. C. INSPECT SPOOLS AND BORE FOR GALLING.
17. HIGH CLUTCH PRESSURE.	A. REGULATOR SPRINGS TOO STRONG.  B. REGULATOR SPOOLS BINDING IN BORE.	A. REPLACE REGULATOR SPRINGS WITH LIGHTER SPRINGS OR REDUCE PRESSURE BY CUTTING APPROXIMATELY ONE COIL FOR EACH 10 LBS OF PRESSURE FROM INNER REGULATOR SPRING. B. INSPECT SPOOL AND BORE FOR GALLING.

## TROUBLE SHOOTING GUIDE HYDRAULIC TA CONT'D

PROBLEM	CAUSE	SOLUTION
18. LOSS OF PRESSURE AS OIL WARMS UP.	A. PLUGGED FILTER. B. LOW PUMP VOLUME.  C. MCV INTERNAL LEAK.	A. CHECK FILTER. B. FLOW RATE PUMP, REPLACE IF NOT TO CORRECT SPECIFICATION. C. REPLACE MCV WITH WORKING MCV.
19. LOSS OF LUBE PRESSURE.	A. FILTER PLUGGED. B. LUBE REGULATOR STUCK.  C. EXCESSIVE TA END PLAY.  D. TA LUBE BAFFLE BENT. E. SUMP CHECK LEAKING.  F. DUMP SPOOL STICKING OR OUT OF ADJUSTMENT.  G. EXCESSIVE WEAR ON TA SEAL RINGS. H. DEFECTIVE TELL LIGHT SWITCH. I. SUPERCHARGE LINE SUCKING AIR.	A. CHECK FILTER. B. INSURE REGULATOR WORKS FREELY. C. SHIM TA TO SPECIFICATION OR REPLACE TA. D. REPLACE TA. E. INSTALL SUMP CHECK PLUG TO TEST FOR LEAKAGE. CORRECT PROBLEM. F. FREE UP DUMP SPOOL, ADJUST TO CORRECT SPECIFICATION. G. REPLACE TA. H. REPLACE SWITCH. I. REPLACE SUPERCHARGE LINE WITH 830601 ELIMINATION KIT
20. LOSS OF PRESSURE IN ALL POSITIONS (TA, DD & MIDDLE).	A. FILTER PLUGGED. B. LOW PUMP VOLUME.  C. BLOWN MCV GASKET. D. REGULATOR VALVE STUCK.  E. RELIEF VALVE BLOWN.  F. SUMP CHECK LEAKING.  G. SUPERCHARGE LINE SUCKING AIR.	A. CHECK FILTER. B. FLOW RATE PUMP (MUST BE TO SPECIFICATION). C. REPLACE MCV GASKET. D. INSURE VALVE IS FREE AND NOT BINDING BORE. E. REPLACE RELIEF VALVE O-RING OR RELIEF VALVE. F. INSTALL SUMP CHECK PLUG TO TEST FOR LEAKAGE. CORRECT PROBLEM. G. REPLACE SUPERCHARGE LINE WITH 830601 ELIMINATION KIT.
21. LOSS OF CLUTCH PRESSURE ON LOW SIDE (TA) OF TA ONLY.	A. BLOWN MCV GASKET. B. BROKEN OR STUCK RING ON TA SHAFT. C. TA CLUTCH PACKS MOVING BECAUSE OF BENT SNAP RING ON TA SHAFT. D. INTERNAL LEAK ON LOW SIDE (TA) OF TA.	A. REPLACE MCV GASKET. B. REPLACE TA. C. REPLACE TA. D. REPLACE TA.
22. LOSS OF CLUTCH PRESSURE ON HIGH SIDE (DD) OF TA ONLY.	A. BLOWN MCV GASKET. B. BROKEN OR STUCK RING ON TA SHAFT. C. TA CLUTCH PACKS MOVING BECAUSE OF BENT SNAP RING ON TA SHAFT. D. INTERNAL LEAK ON HIGH SIDE (DD) OF TA.	A. REPLACE MCV GASKET. B. REPLACE TA. C. REPLACE TA. D. REPLACE TA.
23. TA DOWN SHIFTS WHEN BRAKES AND OR STEERING IS USED.	A. PLUGGED FILTER. B. LOW PUMP VOLUME.  C. SUMP CHECK LEAKING.  D. LOW PRESSURE.	A. CHECK FILTER. B. FLOW RATE PUMP, MUST BE TO CORRECT SPECIFICATIONS. C. INSTALL SUMP CHECK PLUG TO TEST FOR LEAKAGE. CORRECT PROBLEM. D. PERFORM PRESSURE CHECKS. RAISE PRESSURES.

## TROUBLE SHOOTING GUIDE HYDRAULIC TA CONT'D

PROBLEM	CAUSE	SOLUTION
24. HARD STEERING, POOR BRAKES, SLOW SHIFT OF TA.	A. PLUGGED FILTER. B. LOW PUMP VOLUME.  C. WRONG STEERING ORIFICE INSTALLED. D. DEFECTIVE HAND PUMP.  E. FLOW DIVIDER STUCK.	A. CHECK FILTER. B. FLOW RATE PUMP MUST BE TO CORRECT SPECIFICATION. C. INSTALL CORRECT ORIFICE. D. FLOW RATE HAND PUMP MUST BE TO CORRECT SPECIFICATION. E. FREE FLOW DIVIDER AND MAKE SURE IT MOVES FREELY.
25. LARGE RISE IN TA CLUTCH PRESSURES (HIGH AND LOW SIDE) WHEN STEERING WHEEL IS CRAMPED TO LEFT (NORMAL RISE IS 20-30 PSI).	A. RELIEF VALVE MALFUNCTION.	A. REPLACE RELIEF VALVE.
26. OVERHEATING OF BRAKES ON 86 SERIES TRACTORS (EARLY MODELS WITH OPEN CENTER HYDRAULICS) 786, 886, 986, 1086, 1486.	A. PLUGGED OR RESTRICTED BRAKE LUBE ORIFICE.	A. INSTALL 830601 SUPERCHARGE ELIMINATION KIT AND OVERSIZE BRAKE LUBE ORIFICES.
27. NO BRAKES WHEN TRACTOR IS FIRST STARTED.	A. BRAKE CHECK VALVE LEAKING.	A. FOR 06, 26, 56, 66, 68 SERIES TRACTORS, REPLACE CHECK VALVE IN MCV. FOR 86, 88 SERIES TRACTORS, REPLACE CHECK VALVE ON FIRE WALL.
28. DIFFICULTY DISENGAGING RANGE TRANSMISSION.	A. DUMP VALVE NOT ADJUSTED PROPERLY. B. TRANSMISSION BRAKE OVER TIGHTENED.  C. IMPROPER RELEASE OF ENGINE CLUTCH.  D. PILOT BEARING STUCK OR DRIVING TA SHAFT.  E. WRONG MCV GASKET INSTALLED.  F. TRACTOR EQUIPPED WITH TENDERFOOT.	A. RESET DUMP VALVE. B. RESET TRANSMISSION BRAKE. C. INSURE CLUTCH IS RELEASING COMPLETELY. D. REPLACE PILOT BEARING AND INSURE BEARING IS CENTERED ON JOURNAL. E. INSTALL CORRECT MCV GASKET. F. CALL AG PARTS, LTD. SERVICE DEPARTMENT FOR ADDITIONAL HELP.

**IF YOU HAVE ANY PROBLEMS NOT LISTED IN THIS GUIDE,  
CALL AG PARTS, LTD. SERVICE DEPARTMENT FOR HELP.  
HELP.**