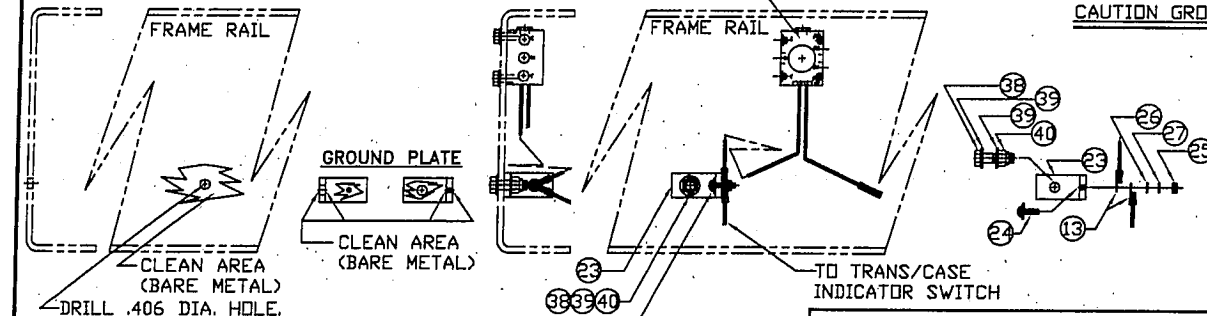
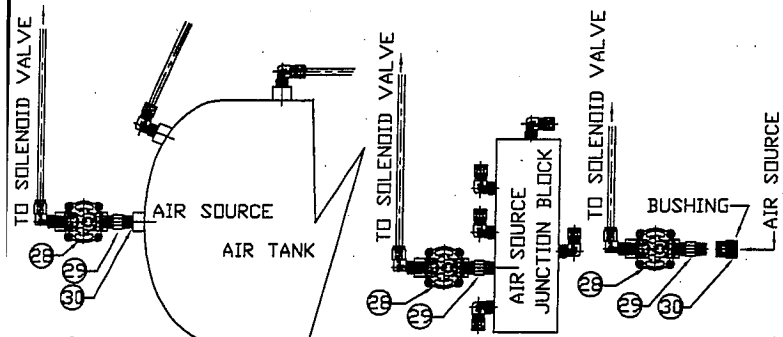


ELECTRICAL SUPPORT PLATE (GROUND PLATE)



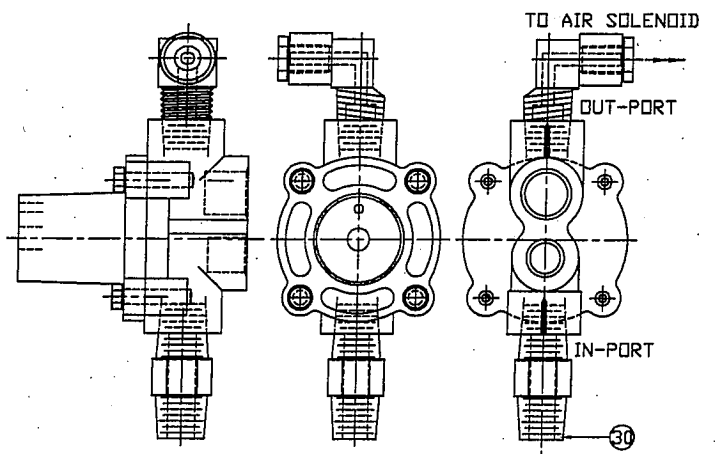
INSTALLATION NOTES

DRILL FRAME RAIL (.406 DIA. HOLE) FOR GROUND PLATE MOUNTING.
 CLEAN AREA OF FRAME RAIL TO BARE METAL (GROUND PLATE AREA)
 CLEAN GROUND PLATE TO BARE METAL TO CONTACT FRAME RAIL AND AREA FOR ELECTRICAL TERMINALS AS SHOWN.
NOTE AREA MUST BE CLEAN FOR CORRECT GROUND, GROUND PLATE MUST CONTACT FRAME RAIL.

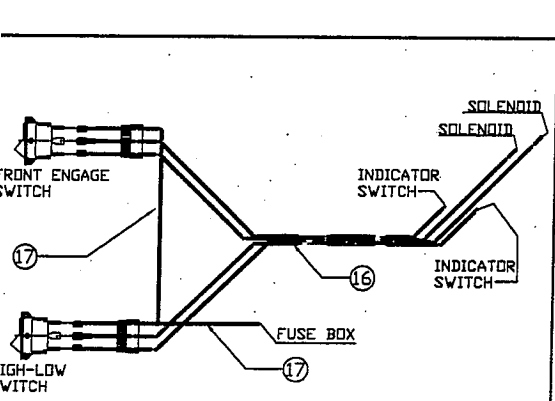
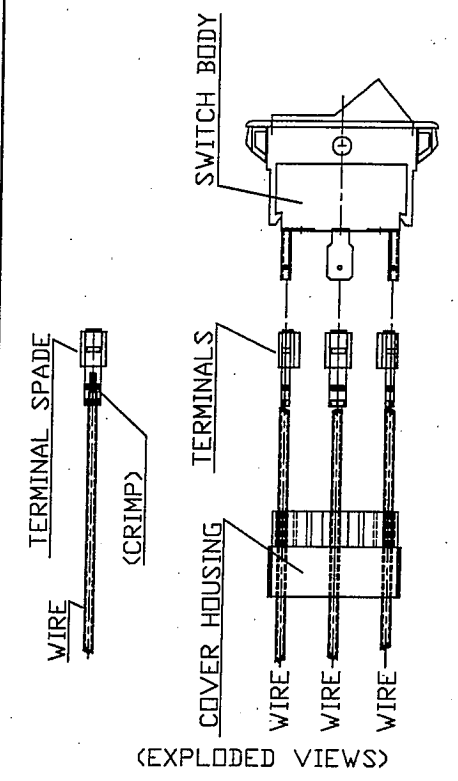
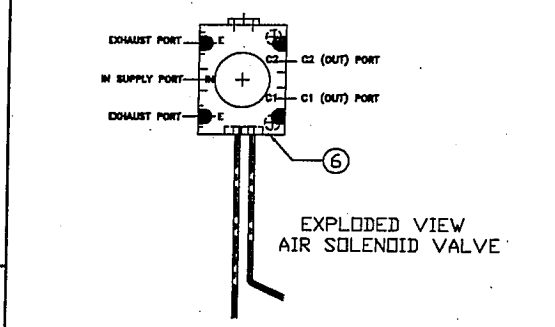


INSTALLATION NOTES

NOTE, FOR AIR SUPPLY USE ONLY SECONDARY AIR SYSTEM ON CHASSIS.
 FOR AIR SOURCE ON SOME CHASSIS MODELS, WILL SHOW WHERE TO SOURCE THE AIR SUPPLY, AIR JUNCTION BLOCK, AIR TANK OR ETC..
DO NOT USE AIR BRAKE SYSTEM FOR AIR SUPPLY SPRING BRAKE OR SERVICE BRAKE SYSTEM
NOTE, ALL M-H AIR VALVES MUST BE LOCATED AFTER THE PRESSURE PROTECTOR VALVE.



PRESSURE PROTECTION VALVE (EXPLODED VIEWS)



INSTALLATION NOTES

INSTALL AIR HOSE FITTING & PLUG INTO SOLENOID VALVES, FAE AND HIGH-LOW PORTS AS SHOWN.
 INSTALL SOLENOID VALVES INTO FRAME RAILS AS CLOSE TO THE TRANSFER CASE ASSEMBLY. USE SOLENOID AS TEMPLATE AND DRILL FRAME RAIL AND BOLT IN PLACE.
 INSTALL THE ELECTRICAL GROUND PLATES INTO FRAME RAILS AS CLOSE TO THE SOLENOID VALVES. DRILL FRAME RAIL AND CLEAN FRAME SECTION AS NOTED IN GROUND PLATE VIEWS. BOLT IN PLACE, NOTE PLATE MUST BE GROUNDED CORRECTLY. DO NOT GROUND TO CHASSIS GROUND CIRCUIT.
 INSTALL AIR PROTECTION VALVE AS SHOWN (INTO AIR TANK ETC.).
 PLUMP AIR LINES AS SHOWN.
 AIR LINE FROM PROTECTION VALVE TO AIR SOLENOID VALVE (H-L) INPUT PORT.
 AIR LINE FROM INPUT PORT (H-L VALVE) TO INPUT PORT OF FAE SOLENOID VALVE.
 AIR LINE FROM FRONT AXLE ENGAGE SOLENOID OUTPUT PORT TO FITTING INSTALLED INTO TRANSFER CASE OF FRONT AXLE ENGAGE SHIFTER.
 AIR LINE FROM HIGH-LOW SOLENOID OUTPUT PORTS AS SHOWN TO FITTINGS INSTALLED INTO TRANSFER CASE HIGH AND LOW PORTS.
 CLAMP ALL LINES AS REQUIRED FOR PROTECTION FROM MOVING PARTS AND HEAT.
 INSTALL A RING TERMINAL FROM EACH SOLENOID VALVE (BLACK WIRE) TO GROUND PLATE. INSTALL BOLT INTO GROUND PLATE AND PLACE RING TERMINAL ONTO BOLT. DO NOT GROUND TO CHASSIS GROUND CIRCUIT.

THE INDICATOR SWITCHES ON TRANSFER CASE ARE SOLDER TYPE ENDS.
 BEFORE PRESSING TOGGLE SWITCHES INTO DASH RUN TEST OF EACH CIRCUIT.
 A SINGLE WIRE AND LOOM RUNS FROM SWITCH (FAE) SPADE #1 TO SWITCH (H-L) SPADE #4 AS SHOWN. USE LOOM TO PROTECT WIRE.
 INSTALL SINGLE WIRE AND LOOM FROM SWITCH (H-L) SPADE #1 TO THE FUSE BLOCK (USING A NUMBER 10 AMP FUSE, AS SHOWN).
 TO INSTALL SWITCHES INTO DASH AREA.
 EACH SWITCH HAS A SWITCH BODY, COVER TERMINAL HOUSING AND TERMINALS. STRIP EACH WIRE AS REQUIRED AND INSTALL A TERMINAL ONTO EACH WIRE USING A TERMINAL LOCKING TOOL (CRIMPER).

ELECTRICAL WIRING:
 REFERENCE:
 SOLENOID VALVES:
 BLACK WIRE (GROUND)
 YELLOW WIRE (HOT)
 AWD PROTECTION CIRCUIT (NOTE WIRES NOT MARKED) COLOR CODED:
 NOTE CIRCUIT HAS 2 RED AND WHITE WIRES, USE EITHER WIRE AS REQUIRED.
 RED WIRE (12VDC)
 RED WIRE (SNSR)
 WHITE WIRE (COM)
 WHITE WIRE (SCOM)
 BROWN WIRE (AWD SOLN)
 ORANGE WIRE (AWD)
 BLUE WIRE (GEAR SOLN)
 YELLOW WIRE (GEAR)
 BLACK WIRE (SSIG1)
 GREEN WIRE (SSIG2)

2-WIRE DUPLEX (2-W) (COLOR OF WIRES SUBJECT TO CHANGE)
 WHITE WIRE
 BLACK WIRE
4-WIRE DUPLEX WIRING (4-W) (COLOR OF WIRES SUBJECT TO CHANGE)
 WHITE WIRE
 GREEN WIRE
 RED WIRE
 BLACK WIRE

SAFE-T-SHIFT OPERATING DESCRIPTION.

MARMON_HERRINGTON HAS INCLUDED A SAFE-T-SHIFT INTERLOCK SYSTEM AS PART OF YOUR ALL-WHEEL DRIVE CONVERSION.
 THE "BLACK BOX" IS CONNECTED INTO YOUR FRONT AXLE ENGAGE AND HI-LO TRANSFER CASE SHIFTER CONTROLS TO PREVENT THE OPERATOR FROM INADVERTENTLY ENGAGING THESE FUNCTIONS WHILE THE VEHICLE IS MOVING. ENGAGEMENT WHILE THE VEHICLE IS MOVING OVER 5 MPH MAY CAUSE DAMAGE TO THE DRIVE TRAIN COMPONENTS.
 WHEN THE OPERATOR ENGAGES THE FRONT AXLE OR SHIFTS THE TRANSFER CASE BETWEEN HIGH OR LOW, THE SAFE-T-SHIFT CONTROLLER WILL NOT ALLOW ENGAGEMENT UNTIL THE VEHICLE IS BELOW A PREDETERMINED SPEED. WITH A MANUAL TRANSMISSION, THE SPEED LIMIT MAY REQUIRE THE OPERATOR TO USE THE CLUTCH TO OBTAIN THE LOW SPEED. WITH AN AUTOMATIC TRANSMISSION, THE OPERATOR MAY NEED TO SHIFT TO NEUTRAL TO MAKE THE SHIFT.
 IF THE VEHICLE IS AT A COMPLETE STOP, THE SHIFT MAY NOT OCCUR UNTIL THE VEHICLE STARTS TO MOVE.

(CONT. NOTES)

CONNECT AS SHOWN:
 FROM AWD CIRCUIT TO SOLENOID AND FAE SWITCH
 BROWN (AWD SOLN) (TO WHITE(2-W)) TO YELLOW WIRE OF SOLENOID FAE
 BLUE (GEAR SOLN) (TO BLACK (2-W)) TO YELLOW WIRE OF SOLENOID H-L
 FROM AWD CIRCUIT TO FUSE BLOCK AND GROUND:
 RED (12VDC) TO BLACK (2-W) TO FUSE BLOCK
 WHITE (COM) TO WHITE (2-W) TO GROUND.
 FROM AWD CIRCUIT TO FAE AND HIGH-LOW SWITCHES:
 ORANGE (AWD) TO BLACK (4-W) TO FAE SWITCH PIN #2.
 YELLOW (GEAR) TO RED (4-W) TO HIGH-LOW SWITCH PIN #2.
 WHITE(4-W FROM FAE SWITCH PIN # 6 TO FAE INDICATOR SWITCH T/CASE.
 GREEN (4-W) FROM HIGH-LOW SWITCH PIN #6 TO HIGH-LOW INDICATOR SWITCH T/CASE.
 WHITE (SCOM) TO WHITE WIRE OF SPEEDO SENSOR CABLE.
 RED (SNSR) TO RED WIRE OF SPEEDO SENSOR CABLE.
 BLACK (SSIG1) TO BLACK WIRE OF SPEEDO SENSOR CABLE.
 GREEN (SSIG2) TO GREEN WIRE OF SPEEDO SENSOR CABLE.
 CLAMP ALL WIRING AS REQUIRED FOR PROTECTION FROM MOVING PARTS AND USE LOOM AS REQUIRED.
 SWITCHES MAY BE MOUNTED INTO DASH AREA IF POSSIBLE. A CONSOLE PLATE IS FURNISHED IN KIT ALSO. MOUNT CONSOLE PLATE TO FLOORBOARD (CONSOLE PLATE EXTENSION) OR UNDER DASH AREA TO DASH. NOTE CONSOLE PLATE MUST BE MOUNTED IN SUCH A WAY AS TO CLEAR THE DRIVERS LEG ROOM & ETC..
 DOUBLE CHECK TO MAKE SURE ALL AIR LINES AND WIRING HARNESS ARE PROTECTED SO THEY WILL NOT CONTACT MOVING PARTS OR BE SUBJECT TO HEAT.
 OPERATION OF SWITCHES:
 NOTE INSTALLED THE AWD PROTECTION CIRCUIT SYSTEM, WILL NOT SHIFT INTO EACH MODE UNTIL SYSTEM IS READY TO SHIFT.
 FRONT AXLE ENGAGE SHIFTER:
 TOGGLE SWITCH TO ON POSITION.
 ELECTRICAL CURRENT TO OPEN SOLENOID, AIR PRESSURE WILL ENGAGE THE FRONT AXLE SHIFTER (INDICATOR SWITCH WILL CLOSE AND SWITCH LAMP SHOULD BE ON).
 DISENGAGE SWITCH, CLOSES SOLENOID VALVE AND EXHAUST AIR PRESSURE IN FRONT AXLE SHIFTER & INDICATOR LAMP SHOULD BE OFF.
 HIGH-LOW ENGAGE SHIFTER:
 TOGGLE SWITCH IN HIGH RANGE, CURRENT TO SOLENOID VALVE KEEPS SHIFTER (AIR PRESSURE) IN HIGH RANGE.
 TOGGLE SWITCH TO LOW RANGE, CURRENT OFF TO SOLENOID VALVE, BUT AIR PRESSURE TO LOW SIDE OF PORT TO ENGAGE LOW SHIFTER AND LAMP WILL BE ON.
 SHIFT BACK TO HIGH RANGE OF SWITCH, AIR PRESSURE INTO HIGH SHIFTER PORT AND SHIFTS INTO HIGH RANGE (LAMP SHOULD BE OFF).
 REFERENCE:
 FRONT AXLE ENGAGE SWITCH / SOLENOID VALVE:
 REQUIRES AIR TO ENGAGE FRONT AXLE SHIFTER, IS SPRING LOADED TO DISENGAGE THE FRONT AXLE SHIFTER.
 GEAR SHIFT HIGH-LOW SWITCH / SOLENOID VALVE:
 REQUIRES AIR PRESSURE TO ENGAGE HIGH RANGE AND AIR PRESSURE TO ENGAGE LOW RANGE OF THE SHIFTER POSITIONS.
 DOUBLE CHECK ALL OF THE ABOVE BEFORE ROAD TEST OF SYSTEM.

NOTE: READ ALL INSTALLATION NOTE ON SHEET 3 OF 3 BEFORE INSTALLING SYSTEM

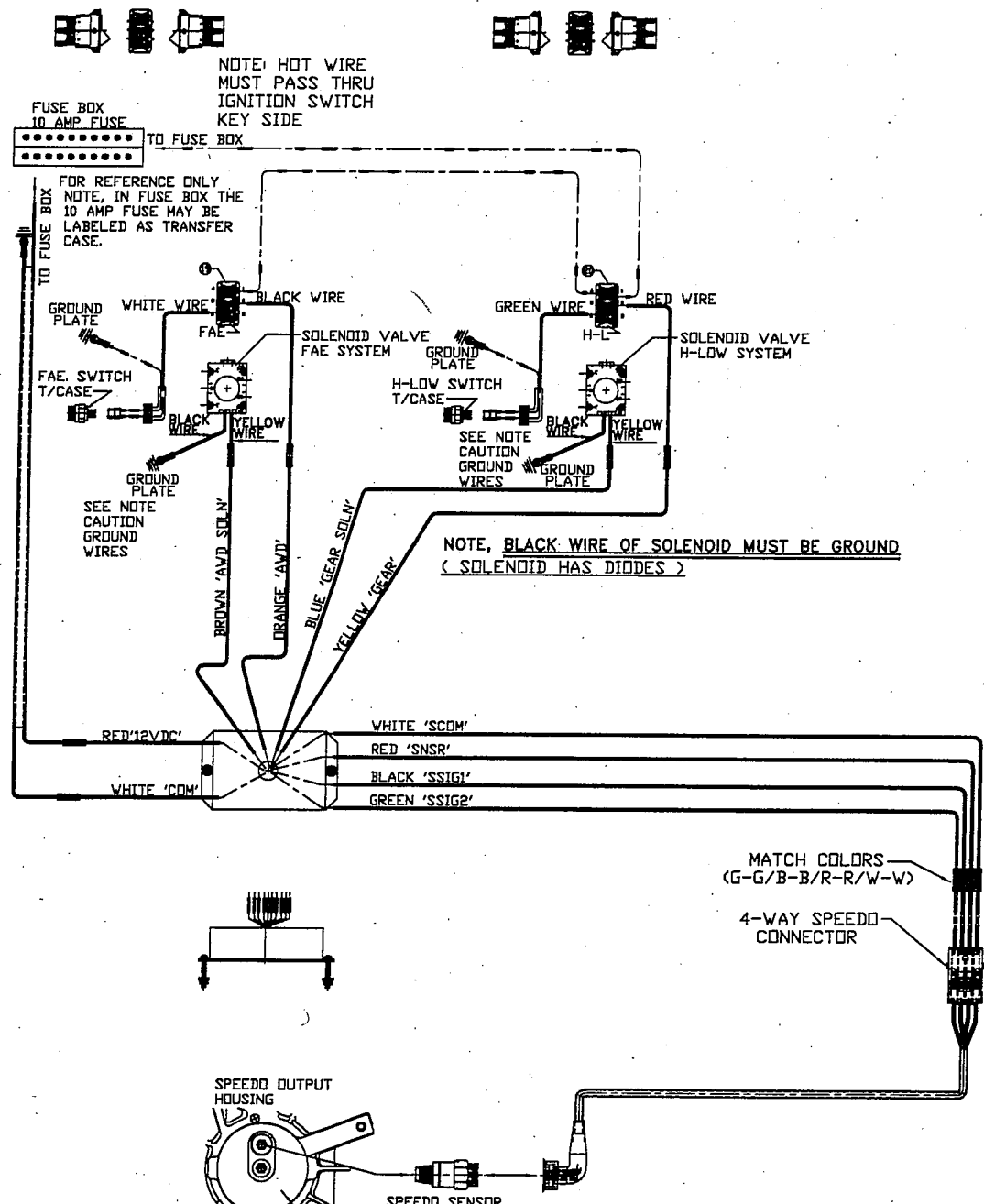


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REV.	DATE	ECN	DESCRIPTION	BY	APP.
MARMON-HERRINGTON LOUISVILLE, KENTUCKY					
DRG. TITLE GENERIC GEAR SHIFT MOUNT					
FAE, H-L, AWD CIRCUIT AIR/ELECT. MVG750R					
OWN. BY	CKD BY	APPD.	DWG. NO.	REV.	
JWP	JW		MHPD 1225		
DATE	DATE	DATE	SCALE	DATE	
03/30/05	03/30/05		.25=1	SHEET 3 OF 3	

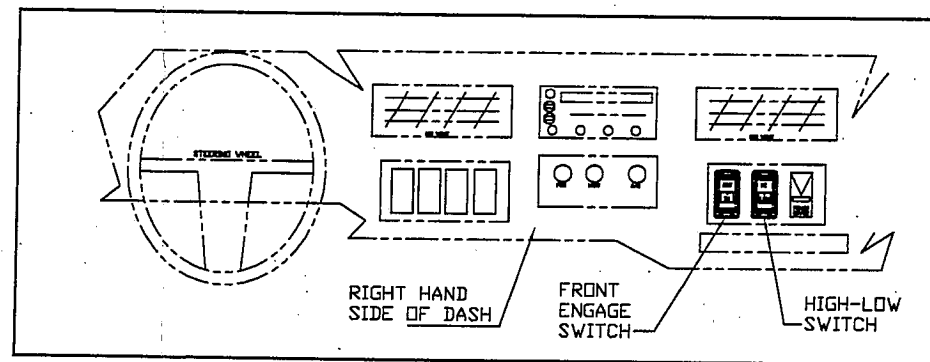
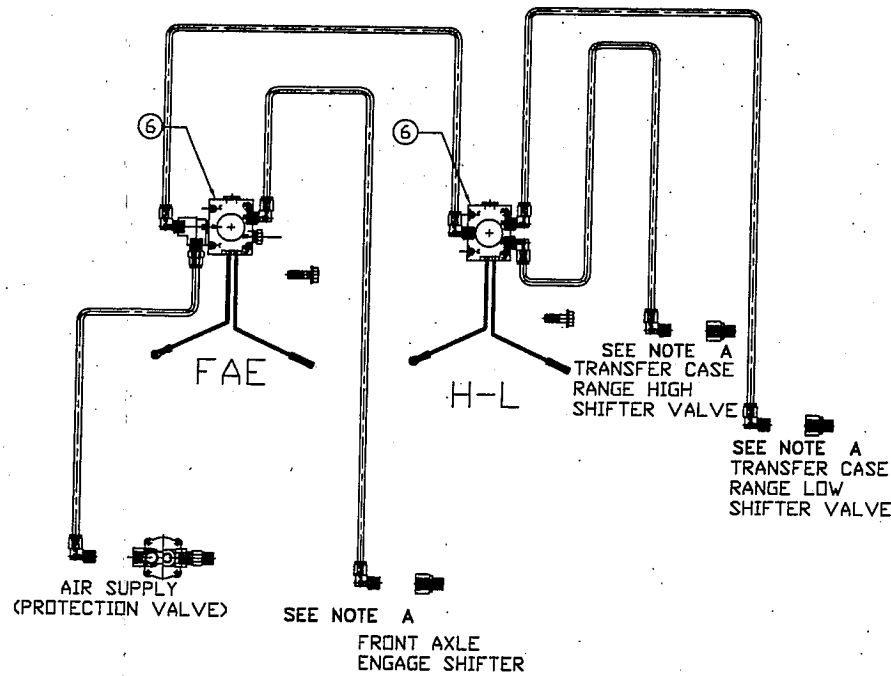
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 MAKING TOLERANCES
 FRACTIONAL DIM. +/- 1/16
 DECIMAL DIM. +/- .005
 UNLESS OTHERWISE SPECIFIED

FRONT AXLE ENGAGE SWITCH ASSEMBLY

GEAR SHIFT HIGH-LOW SWITCH ASSEMBLY



NOTE: READ ALL INSTALLATION NOTE ON SHEET 3 OF 3 BEFORE INSTALLING SYSTEM



CAUTION GROUND WIRES
GROUND WIRES OF SOLENOID AIR VALVES MUST BE GROUNDED WITH GROUND PLATES INSTALLED NEXT TO THE AIR VALVES. DO NOT USE THE COMMON GROUND CIRCUIT OF THE CHASSIS.

NOTE, SEE NOTE A (CAUTION) VIEW ON SHEET 2 OF 3 BEFORE INSTALLING FITTINGS.

NOTE, SOME LINES ARE OMITTED FOR CLARITY.

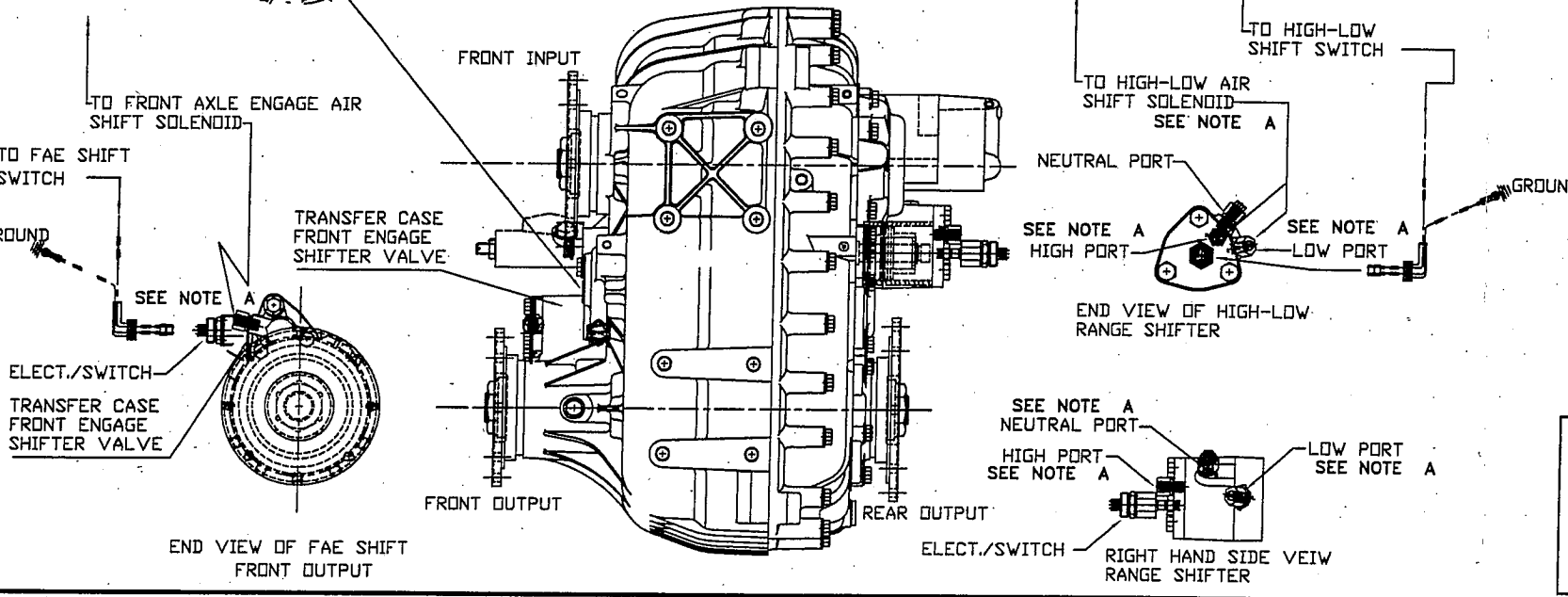
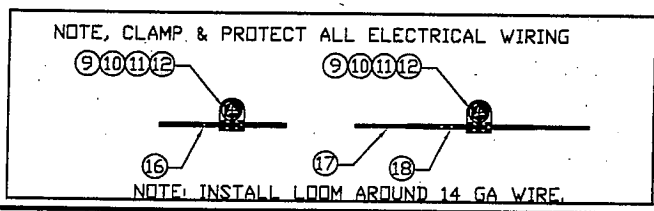
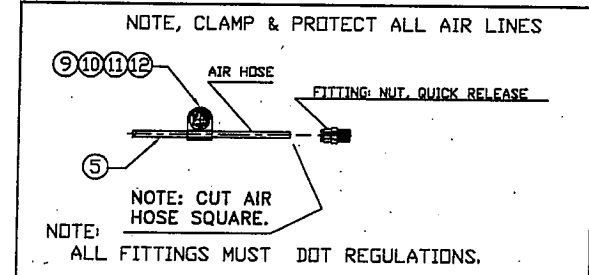
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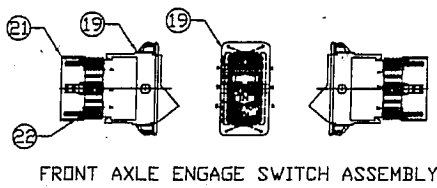
MARMON-HERRINGTON
LOUISVILLE, KENTUCKY

DRG. TITLE					
GENERIC GEAR SHIFT MOUNT					
FAE, H-L, AWD CIRCUIT AIR/ELECT. MVG750R					
OWN. BY	CKD BY	APPD.	DWG. NO.	REV.	
JWP	JW		MHPD 1225		
DATE	DATE	DATE	SCALE	SHEET 1 OF 3	
03/30/05	03/30/05		.25=1		

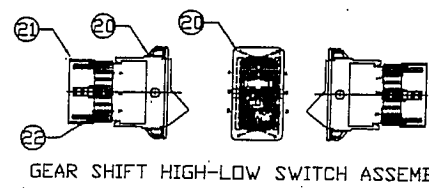
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UNLESS OTHERWISE SPECIFIED
MACHINE TOLERANCE
FRACTIONAL DIM. \pm 1/16
DECIMAL DIM. \pm .005

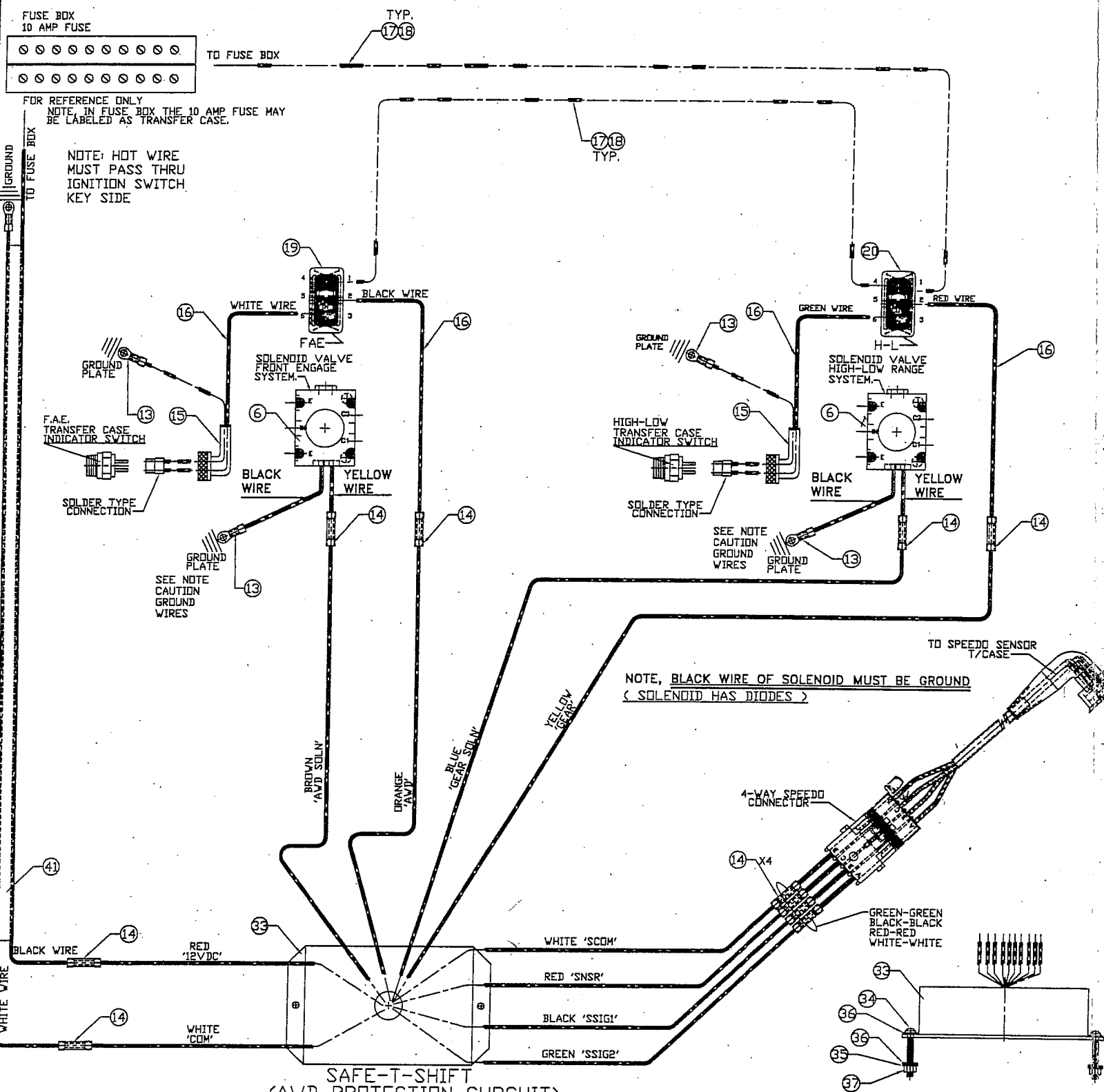




FRONT AXLE ENGAGE SWITCH ASSEMBLY



GEAR SHIFT HIGH-LOW SWITCH ASSEMBLY

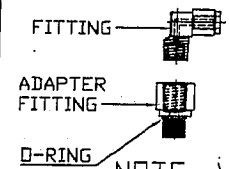


CAUTION GROUND WIRES
ALL GROUND WIRES MUST BE CONNECTED TO GROUND PLATE (F/W KIT).
DO NOT USE THE COMMON GROUND CIRCUIT OF THE CHASSIS,
MAY RESULT IN VEHICLE ELECTRICAL FAILURE.

EXPLODED VIEWS THIS SHEET FOR CLARITY

AIR LINE CONNECTIONS

EXPLODED VIEW

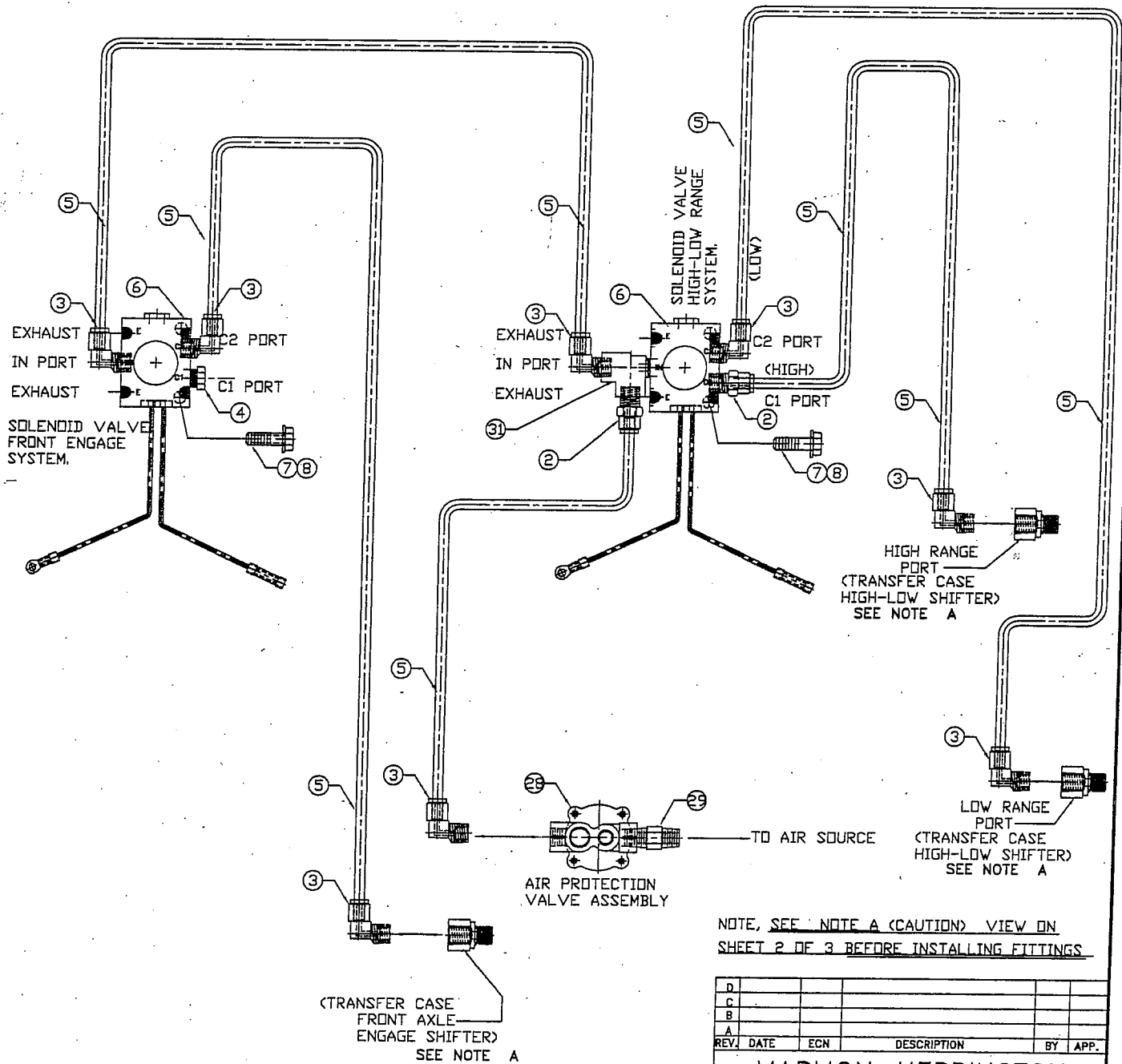


NOTE: A

CAUTION

INSTALLING FITTINGS

NOTE, WHEN INSTALLING AN ELBOW FITTING INTO THE TRANSFER CASE ADAPTER FITTING, THIS ADAPTER FITTING IS AN O-RING TYPE. MUST USE WRENCH TO HOLD FITTING FROM TURNING WHILE INSTALL ELBOW INTO THIS FITTING TO KEEP FROM DISTORTING THE O-RING.



NOTE, SEE NOTE A (CAUTION) VIEW ON SHEET 2 OF 3 BEFORE INSTALLING FITTINGS

D					
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REV.	DATE	ECN	DESCRIPTION	BY	APP.

MARMON-HERRINGTON
LOUISVILLE, KENTUCKY

DRG. TITLE					
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JWP	JW		MHPD 1225		
DATE	DATE	DATE	SCALE	DATE	
03/30/05	03/30/05		.25=1	SHEET 2 OF 3	



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MACHINE TOLERANCE
FRACTIONAL DIM. $\pm .015$
DECIMAL DIM. $\pm .01$
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