

**Service Call:**

Kitsheet and Schematic Abbreviations

**Model(s):**

All

## Tech Tip Safety Rules



### **Danger**

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury. Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

### **Do Not Perform Maintenance Unless:**

- You are trained and qualified to perform maintenance on this machine.
- You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this tech tip is a supplement to the service manual. Consult the appropriate service manual of your machine for safety rules and hazards.

## Step 1

Reference the table below for the abbreviation and the corresponding definition:

<b>ABBREVIATION</b>	<b>DEFINITION</b>
(S/L)	SHIP LOOSE
2E	2ND EXTEND
2nd	SECOND BOOM SECTION
2R	2ND RETRACT
3E	3RD EXTEND
3ES	3RD EXTEND SEQUENCING
3R	3RD RETRACT
3rd	THIRD BOOM SECTION
3RS	3RD RETRACT SEQUENCING
4th	FOURTH BOOM SECTION
A&B	A and B WORK PORTS
AAS'Y	ASSEMBLY
ACC.	ACCESORY or ACCELERATOR
ACK	ACKNOWLEDGEMENT
ADJ	ADJUSTABLE
A-FRM	A-FRAME
ANCH	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASB	AUGER STORAGE BRACKET
ASS'Y	ASSEMBLY
ASTM	(MATERIAL GRADE)
ASTMA	(MATERIAL GRADE)
ATO	AUXILIARY TOOL OUTLET AT TOWER
ATP	AXILARY TOOL - PLATFORM
AUG	AUGER
AUX	AUXILIARY
BASE LIFT	SENSE LINE TO LIFT CYLINDER BASE END
BBL	(MALE) BOSS BULKHEAD
BC	BEHIND CAB MOUNT
BHHSCS	BUTTONHEAD CAPSCREW
BIDIR	BI-DIRECTIONAL
BLD	BLEED SPOOL
BM	BOOM
BOC	BACK OF Cab
BOM	BILL OF MATERIAL

<b>BRC</b>	BELOW ROTATION CONTROLS
<b>BRKT</b>	BRACKET
<b>BSC</b>	BASIC
<b>BSHING</b>	BUSHING
<b>BSKT</b>	BASKET
<b>C ZP</b>	ZINC-PLATED (GRADE C)
<b>C/ALL</b>	COMMAND ALL
<b>C/B</b>	COLLECTOR BLOCK
<b>C/P</b>	COMMAND POST
<b>C/R</b>	COLLECTOR RING
<b>CA</b>	CAB TO AXLE
<b>CAPT</b>	CAPTAIN
<b>CAPT II</b>	CAPTAIN II (85 SERIES)
<b>CATRAC</b>	BRAND NAME OF HOSE CARRIER
<b>CAV</b>	CAVITY
<b>CB</b>	COUNTER BALANCE
<b>C'BAL</b>	COUNTER BALANCE
<b>C'BALANCE</b>	COUNTER BALANCE
<b>CC</b>	POLE GUIDE CLOSE
<b>CCB</b>	COMPENSATION CYLINDER BASE
<b>CCR</b>	COMPENSATION CYLINDER ROD
<b>CCW</b>	COUNTERCLOCKWISE
<b>CER</b>	CUSTOMER ENGINEERING REQUEST
<b>CERT</b>	CERTIFICATION
<b>CH C/R</b>	# CHANNEL - COLLECTOR RING
<b>CHHA</b>	HANDLE TYPE
<b>CID</b>	CUBIC INCH DISPLACEMENT
<b>CM</b>	COMMANDER
<b>CMDR</b>	COMMANDER
<b>CMPND</b>	COMPOUND
<b>CMT</b>	CORNER MOUNT
<b>CNSL</b>	CONSOLE
<b>CNTRL</b>	CONTROL
<b>CNTRLS</b>	CONTROLS
<b>CO</b>	POLE GUIDE OPEN
<b>COLL</b>	COLLECTOR
<b>COLL BLK</b>	COLLECTOR BLOCK
<b>COMP</b>	COMPENSATION LINE PORT
<b>CON</b>	CONNECTOR
<b>CONN.</b>	CONNECTOR
<b>CONT</b>	CONTINUOUS
<b>CR</b>	CONSOLE CONTROLS REVERSE - OPERATOR FACES

	FRONT OF TRUCK
<b>CT</b>	CONSOLE CONTROLS PARALLEL - OPERATOR FACES REAR OF TRUCK
<b>CT/45</b>	CONSOLE CONTROLS 45 MOUNT - OPERATOR FACES REAR OF TRUCK
<b>CT/90</b>	CONSOLE CONTROLS 90 MOUNT - OPERATOR FACES SIDE OF TRUCK
<b>CTI</b>	CONTROLS TOP INSULATED
<b>CTR</b>	CENTER-MOUNT
<b>CTR</b>	CONSOLE TOP REVERSE
<b>CTR MT</b>	CENTER MOUNT
<b>CTRL</b>	CONTROLS
<b>CV</b>	CHECK VALVE
<b>CVDD</b>	CHECK VALVE DIG DIG
<b>CVDW</b>	CHECK VALVE DIG WINCH
<b>CVHA</b>	HANDLE TYPE
<b>CVHOP2E</b>	CHECK VALVE HOP 2ND EXTEND
<b>CVHOPLD</b>	CHECK VALVE HOP LIFT DOWN
<b>CVHOPTPP3E</b>	CHECK VALVE HOP TILT POLE PLUMBER 3RD EXTEND
<b>CVWU</b>	CHECK VALVE WINCH UP
<b>CW</b>	CLOCKWISE
<b>CYL</b>	CYLINDER
<b>D</b>	DRAIN
<b>D(#)</b>	DRAIN PORT #
<b>D/W</b>	DIGGER - WINCH
<b>DB</b>	DECIBLES
<b>DBC MTG</b>	DIRECTLY BEHIND CAB MOUNTING
<b>DC</b>	DC POWER
<b>DCL</b>	DECAL
<b>DD</b>	DIGGER DERRICK
<b>DEG</b>	DEGREE
<b>DET</b>	DETENT
<b>DGR</b>	DIGGER
<b>DIA.</b>	DIAMETER
<b>DIFF</b>	DIFFERENTIAL
<b>DIR</b>	DIRECT ACTING
<b>DNGR</b>	DANGER
<b>DP</b>	DERRICK PRESSURE
<b>DR</b>	DRAIN OR DIG REVERSE
<b>DS</b>	DIGGER SHIFT
<b>DWG</b>	DRAWING
<b>DZ</b>	SHAPE of SEAL
<b>ECO</b>	ENGINEERING CHANGE ORDER

<b>EHD</b>	EXTRA HEAVY DUTY
<b>EHV</b>	EXTRA HIGH VOLTAGE
<b>ELC</b>	ELECTRONIC LOAD CHART
<b>ELEC</b>	ELECTRIC
<b>ELECT</b>	ELECTRIC
<b>EMG</b>	EMERGENCY
<b>EMRG</b>	EMERGENCY
<b>ENA</b>	ENABLE
<b>ESK</b>	ESKRIDGE
<b>ESK 71 BA</b>	ESKRIDGE 71 BA DIGGER (12,000 LB.)
<b>ESNA</b>	TYPE of SELF LOCKING FASTENER
<b>EVH</b>	ENABLE VALVE HIGH
<b>EVL</b>	ENABLE VALVE LOW
<b>EXT</b>	EXTEND or EXTRA
<b>F.O. + F/O</b>	FIBER OPTIC
<b>F/W</b>	FLAT WASHER
<b>FBG</b>	FIBERGLASS
<b>FFSX</b>	FEMALE FACE SEAL
<b>FG</b>	FIBERGLASS
<b>FHMS</b>	FLAT HEAD MACHINE SCREW
<b>FHSCS</b>	FLAT HEAD SOCKET CAP SCREW
<b>FJ</b>	FEMALE JIC FITTING
<b>FJX</b>	FEMALE JIC FITTING
<b>FLG</b>	FLANGE
<b>FLT</b>	FLAT
<b>FNPT</b>	FEMALE PIPE FITTING
<b>FOC</b>	FIBER OPTIC CONTROLS
<b>FR</b>	FLOW REGULATOR
<b>FTG</b>	FITTING
<b>FTGS</b>	FITTINGS
<b>FUNC</b>	FUNCTION
<b>FW</b>	FLAT WASHER
<b>FWD</b>	FORWARD
<b>G(#)</b>	GAUGE PORT #
<b>G/P</b>	GENERAL PURPOSE CONTROLS
<b>GA</b>	GAUGE
<b>GAWR</b>	GROSS AXLE WEIGHT RATING
<b>GFI</b>	GROUND FAULT CIRCUIT INTERRUPTER
<b>GPM</b>	GALLONS PER MINUTE
<b>GR</b>	GRADE
<b>GVW</b>	GROSS VEHICLE WEIGHT
<b>GVWR</b>	GROSS VEHICLE WEIGHT RATING

<b>H/R</b>	HANDLE RACK CONTROLS
<b>H/V</b>	HOLDING VALVE
<b>HBOLT</b>	HEX BOLT
<b>HD</b>	HEAVY DUTY
<b>HDG</b>	HOT DIPPED GALVENIZED
<b>HEX</b>	HEXAGON
<b>HFTC</b>	SLOTTED HEX WASHER CUTTING SCREW
<b>HHCS</b>	HEX HEAD CAP SCREW
<b>HHMS</b>	HEX HEAD MACHINE SCREW
<b>HJNUT</b>	HEX JAM NUT
<b>HNUT</b>	HEX NUT
<b>HOP</b>	HYDRAULIC OVERLOAD PROTECTION
<b>HOP DUMP</b>	HOP DUMP PILOT PORT
<b>HR</b>	UNIT TYPE (HR) or HI-RANGER
<b>HRD</b>	HARD
<b>HSHSS</b>	HEX SOCKET HEAD SET SCREW
<b>HTR</b>	HEATER
<b>HVY</b>	HEAVY
<b>HYD</b>	HYDRAULIC
<b>I.D.</b>	IDENTIFICATION
<b>ID</b>	INSIDE DIAMETER
<b>ILO</b>	IN LIEU OF
<b>INST</b>	INSTALL
<b>INSTAL</b>	INSTALLATION
<b>INSTR</b>	INSTRUCTIONS
<b>INTRLCK</b>	INTERLOCK
<b>ISO</b>	INTERNATIONAL STANDARDS ORGANIZATION
<b>J/W</b>	JIB AND WINCH
<b>JY</b>	ENABLE OUT TO JOY STICK
<b>L.H.</b>	LEFT HAND
<b>L/C</b>	LOWER CONTROLS
<b>LB</b>	POUND OR LOWER BOOM
<b>LBR</b>	LOWER BOOM RETRACT
<b>LCV</b>	LOWER CONTROL VALVE
<b>LCVP</b>	LOWER CONTROL VALVE PRESSURE
<b>LCVT</b>	LOWER CONTROL VALVE TANK
<b>LD</b>	LIFT DOWN, OR LOAD SENSE DISABLE
<b>LEV</b>	LEVELING
<b>LG</b>	LONG
<b>LH</b>	LEFT HAND
<b>LK</b>	LOCK (LOCK WASHER)
<b>LL</b>	LOWER LEVEL

<b>LS</b>	LOAD SENSE
<b>LS(#)</b>	LOAD SENSE #
<b>LSD</b>	LOAD SENSE DIG
<b>LSDW</b>	LOAD SENSE DIG WINCH
<b>LSW</b>	LOAD SENSE WINCH
<b>LU</b>	LIFT UP
<b>LW</b>	LOCK WASHER
<b>LWR</b>	LOWER
<b>LWRD</b>	LOWERD
<b>MACH</b>	MACHINE
<b>MAN</b>	MANUAL
<b>MATL</b>	MATERIAL
<b>MBL</b>	MALE BOSS LONG
<b>MECH</b>	MECHANICAL
<b>MED</b>	MEDIUM
<b>MFS</b>	MALE FACE SEAL
<b>MFSBLKHD</b>	MALE FACE SEAL BULKHEAD
<b>MJ</b>	MALE JIC
<b>MJBLKHD</b>	MALE JIC BULKHEAD
<b>MJIC</b>	MALE JIC
<b>MKI</b>	MARK I DIGGER (5,500 LB.)
<b>MKII</b>	MARK II DIGGER (8,700 LB.)
<b>MKIII</b>	MARK III DIGGER (14,000 LB.)
<b>MNPT</b>	MALE PIPE THREAD
<b>MNT</b>	MOUNT
<b>MOD</b>	MODIFIED
<b>MSHXNUT</b>	MACHINE SCREW HEX NUT
<b>MT</b>	MOUNT
<b>MTD</b>	MOUNTED
<b>MTG</b>	MOUNTING
<b>MTW</b>	MOUNT WITH
<b>MV(#)</b>	MANUAL VALVE #
<b>N.C.</b>	NORMALLY CLOSED
<b>N.O.</b>	NORMALLY OPEN
<b>NC</b>	NATIONAL COURSE THREAD
<b>NEUT</b>	NEUTRAL
<b>NF</b>	NATIONAL FINE THREAD
<b>NONSEQ</b>	NON-SEQUENTIAL
<b>NPT</b>	PIPE THREAD
<b>NS</b>	NOT SHOWN
<b>NYL</b>	NYLON
<b>O/R</b>	OUTRIGGER



<b>OC</b>	OVER CENTER
<b>OD</b>	OUTSIDE DIAMETER
<b>OM</b>	UNIT TYPE (OM)
<b>OP</b>	OPTION VALVE PRESSURE
<b>OR</b>	OPTION VALVE RETURN
<b>OR(#)</b>	ORIFICE #
<b>ORA</b>	OVER REAR AXLE
<b>ORF</b>	ORIFICE
<b>ORFS</b>	O-RING FACE SEAL
<b>OTR</b>	OUTER
<b>P</b>	PRESSURE IN or PILOT
<b>P(#)</b>	PRESSURE PORT #
<b>P/B</b>	POLE BUDDY
<b>P2E3E</b>	PILOT 2ND EXTEND 3RD EXTEND
<b>P2R3R</b>	PILOT 2ND RETRACT 3RD RETRACT
<b>PA</b>	PILOT ASSIST
<b>PAR</b>	PILOT ASSIST RETURN
<b>PARA</b>	PARALLEL
<b>PARR</b>	PARALLEL
<b>PASS</b>	PASSENGER
<b>PB</b>	POWER BEYOND or POSSUM BELLY
<b>PC</b>	PIECE
<b>PC</b>	PARALLELOGRAM CONTROL
<b>PCC</b>	POLE GUIDE CLOSE
<b>PCK</b>	PACK
<b>PCT</b>	POLE GUIDE TILT
<b>PD(#)</b>	PILOT DIRECTIONAL VALVE #
<b>PDDWD</b>	PILOT DIG DIG WINCH DOWN
<b>PDRWU</b>	PILOT DIG REVERSE WINCH UP
<b>PE</b>	PILOT ENABLE
<b>PE2</b>	PILOT ENABLE 2ND
<b>PE3</b>	PILOT ENABLE 3RD
<b>PED</b>	PILOT ENABLE DIG
<b>PEL</b>	PILOT ENABLE LIFT
<b>PER</b>	PILOT ENABLE ROTATION
<b>PERF</b>	PERFORMANCE or PERFORATED
<b>PEW</b>	PILOT ENABLE WINCH
<b>PG</b>	POLE GUIDE WINCH
<b>PGW</b>	POLE GUIDE WINCH
<b>PHIGH</b>	PRESSURE IN-HIGH SIDE OF MANIFOLD
<b>PHS</b>	PLASTIC HEADED SCREW
<b>PKG</b>	PACKAGE

<b>PLATF</b>	PLATFORM
<b>PLD</b>	PILOT LIFT DOWN
<b>PLNTY</b>	PLANETARY
<b>PLOW</b>	PRESSURE IN-LOW SIDE OF MANIFOLD
<b>PLTF</b>	PLATFORM
<b>PLTFM</b>	PLATFORM
<b>PLU</b>	PILOT LIFT UP
<b>PNT</b>	POINT
<b>PO</b>	PILOT OPERATED CHECK VALVE
<b>POS</b>	POSITION
<b>POSIT</b>	POSITION
<b>PPHS</b>	PHILLIPS DRIVE PAN HEAD SCREW
<b>PR</b>	PRESSURE REDUCING VALVE or REDUCED PRESSURE PORT
<b>PR(#)</b>	PRESSURE REDUCING VALVE #
<b>PRCCW</b>	PILOT ROTATION COUNTERCLOCKWISE
<b>PRCW</b>	PILOT ROTATION CLOCKWISE
<b>PRES</b>	PRESSURE
<b>PRRV</b>	PRESSURE REDUCING RELIEVING VALVE
<b>PS</b>	PRESSURE SWITCH
<b>PS(#)</b>	PRESSURE SENSE VALVE #
<b>PTO</b>	POWER TAKE OFF
<b>R.H.</b>	RIGHT HAND
<b>R/P</b>	REPLACEMENT PARTS
<b>RA</b>	REAR AXLE
<b>RCCW</b>	ROTATION COUNTERCLOCKWISE
<b>RCW</b>	ROTATION CLOCKWISE
<b>RD</b>	ROUND
<b>RED.</b>	REDUCING
<b>RELF</b>	RELIEF
<b>REP</b>	REPLACED
<b>REQ</b>	REQUIRED
<b>RET</b>	RETRACTED
<b>RH</b>	RIGHT HAND
<b>RHMS</b>	ROUND HEAD MACHINE SCREW
<b>RM</b>	REAR MOUNT WINCH
<b>RND</b>	ROUND
<b>ROT</b>	ROTATION
<b>ROT LS</b>	ROTATION LOAD SENSE
<b>ROT'N</b>	ROTATION
<b>RP</b>	REDUCED PRESSURE
<b>RSL</b>	SPRING RETURN HOSE REEL

<b>RTV</b>	ROOM TEMPERATURE VUCANIZING
<b>RV</b>	RELIEF VALVE
<b>RVH</b>	RELIEF VALVE HIGH
<b>RVL</b>	RELIEF VALVE LOW
<b>S(#)</b>	SOLENOID VALVE #
<b>S/A</b>	SWING AWAY CONTROLS
<b>S/L</b>	SHIP LOOSE
<b>S/S</b>	STOP/START
<b>SAE</b>	SOCIETY of AUTOMOTIVE ENGINEERS
<b>SBHCSCREW</b>	SOCKET BUTTON HEAD CAP SCREW
<b>SBT</b>	STAND BESIDE TOWER HANDLE RACK
<b>SC</b>	SCREEN OR FILTER
<b>SCHCSCREW</b>	SOCKET COUNTERSUNK HEAD CAP SCREW
<b>SEC</b>	SECONDARY
<b>SECT</b>	SECTION
<b>SEL</b>	SELECTOR
<b>SEQ</b>	SEQUENTIAL
<b>SGL</b>	SINGLE
<b>SH</b>	SHUTTLE VALVE
<b>SHCS</b>	SOCKET HEAD CAP SCREW
<b>SHSLDS</b>	SOCKET HEAD SHOULDER BOLT
<b>SHSS</b>	SOCKET HEAD SET SCREW
<b>SKT</b>	SOCKET
<b>SL</b>	SLOTTED HEX WASHER CUTTING SCREW
<b>SP</b>	SPRING
<b>SPD</b>	SPEED
<b>SPEC</b>	SPECIFICATION
<b>SPL</b>	SPOOL
<b>SPR</b>	SPRING
<b>SPRG</b>	SPRING
<b>SRHMS</b>	SLOTTED ROUND HEAD MACHINE SCREW
<b>SS</b>	SINGLE STICK
<b>SSCUPSKT</b>	SET SCREW CUP SOCKET
<b>STD</b>	STANDARD
<b>STG</b>	STORAGE
<b>STGR</b>	STINGER
<b>STK</b>	STICK
<b>STL</b>	STEEL
<b>STR</b>	STRAIGHT
<b>SV(#)</b>	SOLENOID VALVE #
<b>SV2E3E</b>	SOLENOID VALVE 2ND EXTEND 3RD EXTEND
<b>SV2R3R</b>	SOLENOID VALVE 2ND RETRACT 3RD RETRACT

<b>SVC</b>	SOLENOID VALVE POLE GUIDE
<b>SVDDWD</b>	SOLENOID VALVE DIG DIG WINCH DOWN
<b>SVDRWU</b>	SOLENOID VALVE DIG REVERSE WINCH UP
<b>SVEN</b>	SOLENOID VALVE ENABLE
<b>SVT</b>	SOLENOID VALVE TILT
<b>SW</b>	SWITCH
<b>SYS</b>	SYSTEM
<b>T</b>	TANK OR RESERVOIR
<b>T.P.P.</b>	TILT POLE PLUMBER
<b>T/C</b>	TOWER CONTROLS
<b>T1H</b>	TANK PORT #1-HIGH SIDE OF MANIFOLD
<b>T2L</b>	TANK PORT #2-LOW SIDE OF MANIFOLD
<b>TAB</b>	TAB (LIKE A SPACER)
<b>TC</b>	MODEL TYPE (TC)
<b>TCX</b>	MODEL TYPE (TCX)
<b>TD</b>	TILT DOWN
<b>TEE</b>	FITTING THAT IS "T-SHAPED"
<b>TELE</b>	TELESCOPING
<b>TELETUBES</b>	TELESCOPING DIGGER AND/OR WINCH TUBES
<b>THC</b>	SINGLE STICK "T" HANDLE CONTROL
<b>THD</b>	THREAD
<b>THK</b>	THICK
<b>THMS</b>	SLOTTED DRIVE TRUSS HEAD MACHINE SCREW
<b>THRD</b>	THIRD
<b>THTL</b>	THROTTLE
<b>TLM</b>	UNIT TYPE (TLM)
<b>TM</b>	UNIT TYPE (TM)
<b>TM</b>	TURRET MOUNT WINCH
<b>TOOLH</b>	TOOL PORT-HIGH SIDE OF MANIFOLD
<b>TOOLL</b>	TOOL PORT-LOW SIDE OF MANIFOLD
<b>TPL</b>	UNIT TYPE (TPL)
<b>TPP</b>	TILT POLE PLUMBER
<b>TPP INTK</b>	TILT POLE PLUMBER INTERLOCK
<b>TRKG</b>	TRACKING
<b>TT</b>	TURNTABLE
<b>TU</b>	TILT UP
<b>TWR</b>	TOWER
<b>TWT</b>	TYPE OF AUGER TOOTH/ BIT
<b>TXFR</b>	TRANSFER
<b>TXFR TPP</b>	TRANSFERRABLE TILT POLE PLUMBER
<b>UB</b>	UPPER BOOM
<b>UBD</b>	UPPER BOOM DOWN

<b>UBU</b>	UPPER BOOM UP
<b>UC</b>	UPPER CONTROL
<b>UCV</b>	UPPER CONTROL VALVE
<b>UHMW</b>	PLASTIC MATERIAL TYPE
<b>UNC</b>	UNIFIED NATIONAL COURSE THREAD
<b>UNF</b>	UNIFIED NATIONAL FINE THREAD
<b>USS</b>	UNITED STATES STANDARD THREAD
<b>VAC</b>	VACUUM or VOLTAGE AC
<b>VDC</b>	VOLTAGE DC
<b>VERT</b>	VERTICAL
<b>VLV</b>	VALVE
<b>W/</b>	WITH
<b>W/HOLE</b>	WITH HOLE
<b>W/O</b>	WITHOUT
<b>WB</b>	WHEEL BASE
<b>WD</b>	WINCH DOWN
<b>WELDT</b>	WELDMENT
<b>WIN</b>	WINCH
<b>WK MTG</b>	WALK THROUGH MOUNTING
<b>WLDNUT</b>	WELDNUT
<b>WSHR</b>	WASHER
<b>WT</b>	WEIGHT
<b>WTH</b>	WALK THROUGH
<b>WTHR</b>	WEATHERPACK
<b>WTHRPK</b>	SAME AS ABOVE
<b>WU</b>	WINCH UP
<b>XFER</b>	TRANSFERRABLE
<b>XT</b>	UNIT XYPE (XT)
<b>YZ</b>	YELLOW ZINC
<b>YZP</b>	YELLOW ZINC PLATE
<b>ZP</b>	ZINC PLATE