M-90-1 REV. A APRIL,1993

INSTALLATION MANUAL

MAXON® RAILIFT® RAB SERIES LIFT GATES



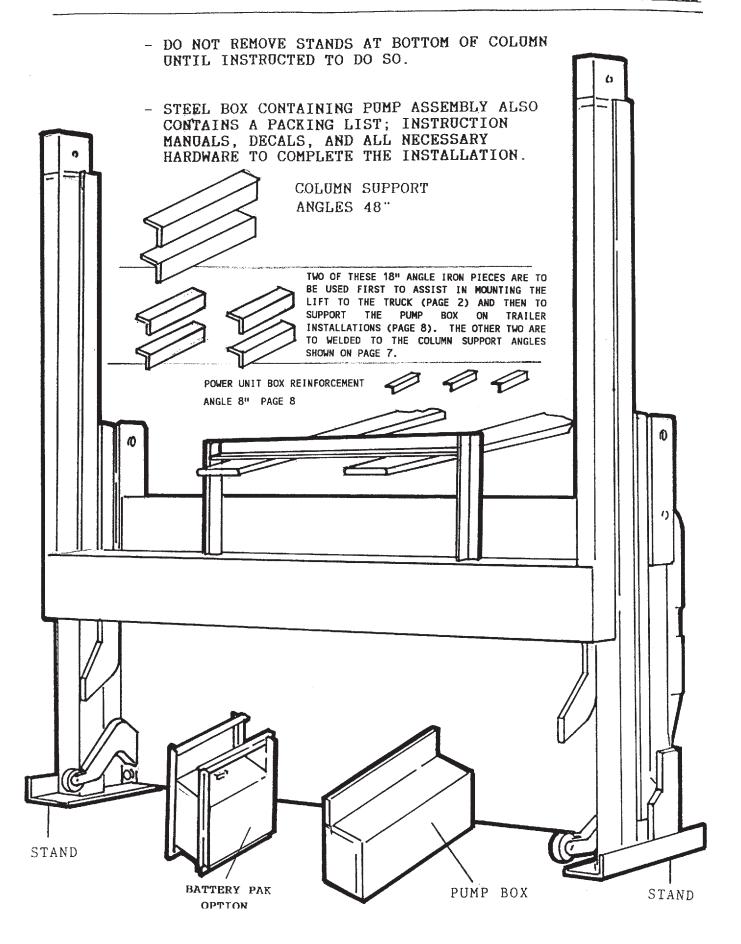
1960 SLAUSON AVENUE HUNTINGTON PARK, CA 90255 THIS PUBLICATION CONTAINS THE INFORMATION REQUIRED TO INSTALL THE FOLLOWING MODELS AND THEIR OPTIONS; RC, RCW, RCT AND RCHL FROM 2000 TO 6000 POUND CAPACITIES. IF THERE IS ANY DOUBT IN YOUR MIND REGARDING THE SUITABILITY OF THESE LIFTS BEING INSTALLED ON ITS INTENDED VEHICLE, OR ANY PORTION OF THESE INSTRUCTIONS THAT YOU DO NOT UNDERSTAND, PLEASE CONTACT THE MAXON CUSTOMER SERVICE DEPARTMENT FOR CONSULTATION.

UNAUTHORIZED MODIFICATION TO THIS EQUIPMENT MAY CAUSE PREMATURE FAILURE OR CREATE HAZARDS IN ITS USE THAT ARE NOT FORSEEN AT THE TIME OF THE INSTALLATION. THESE KINDS OF CHANGES SHOULD BE DISCUSSED WITH OUR ENGINEERING DEPARTMENT BEFORE BEING UNDERTAKEN.

BED HEIGHT REQUIREMENTS TO GROUND ARE 38" LADEN TO 56" UNLADEN.

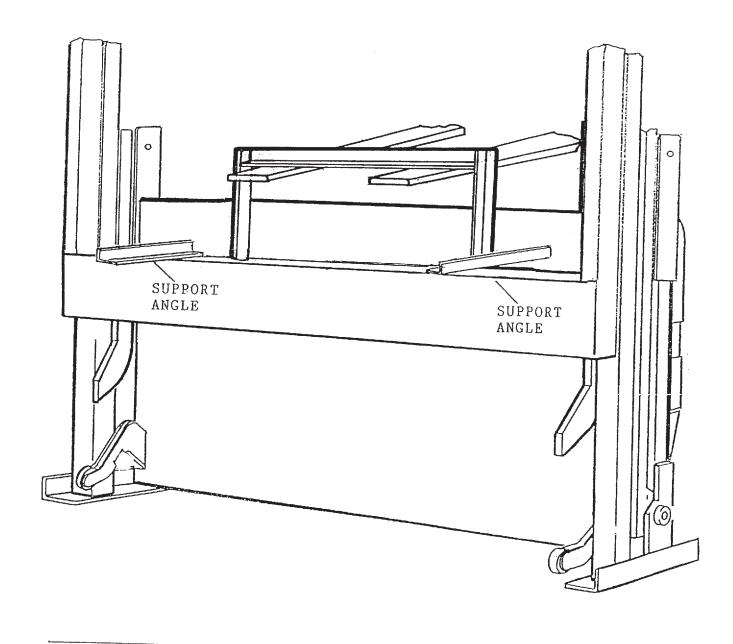
THESE LIFTS CAN NOT BE INSTALLED ON BODIES WITH SWING TYPE DOORS.

THESE LIFTS HAVE BEEN DESIGNED TO FIT BODIES THAT ARE 96" AND 102" WIDE, IN THE CASE OF THE RCW MODELS. IF THIS BODY HAS DIMENSIONS THAT ARE MUCH DIFFERENT THAN THESE, SPECIAL BRACKETS WILL HAVE TO BE FABRICATED FOR ATTACHMENT. THE CORNER POSTS OF THE BODY MUST ALSO BE MADE OF STEEL SO THAT THE LIFT COLUMNS CAN BE WELDED TO IT. IF THEY ARE ALUMINUM, THEN STEEL PLATES WILL HAVE TO BE FABRICATED TO BOLT TO THESE CORNER POSTS FOR WELDING TO THE LIFT ASSEMBLY. BOTH OF THE ABOVE CONDITIONS ARE RARE AND THEREFORE HAVE NOT BEEN PROVIDED FOR IN THIS MANUAL. CONTACT THE CUSTOMER SERVICE IF EITHER OF THE ABOVE CONDITIONS EXIST.



THERE ARE TWO PIECES OF ANGLE IRON SUPPORTS (2-1/2 X 2-1/2 X 18 INCHES) THAT HAVE BEEN PROVIDED TO ASSIST IN LINING THE UNIT UP TO THE BODY. TACK WELD THEM TO THE TOP OF THE LIFT'S MAIN SECTION, JUST STRONG ENOUGH TO SUPPORT IT ON THE TRUCK FLOOR TILL THE LIFT IS SECURED AND READY TO WELD. PUT A CHALK MARK ON THE CENTER OF THE UNIT (ON THE TREAD PLATE SURFACE) FOR ALIGNING WITH THE CENTER OF THE TRUCK BODY.

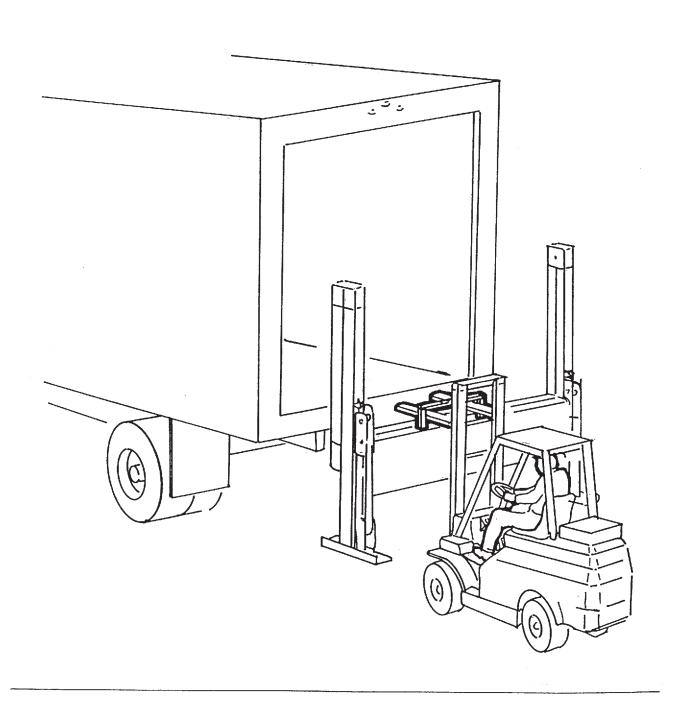
REMOVE SUPPORT ANGLES AFTER LIFT IS MOUNTED AND USE THEM FOR PUMP BOX MOUNT REINFORCEMENT.

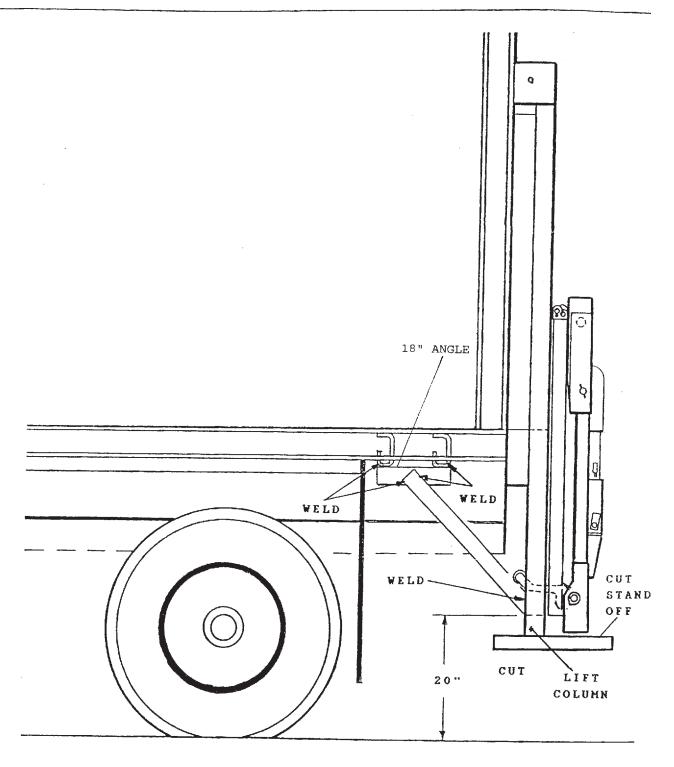


CORNER POSTS AND SILL UNDER REAR OF FLOOR MUST BE CLEAN AND FREE OF ANY OBSTRUCTIONS, SO THAT THE COLUMNS OF THE RAIL LIFT CAN FIT FLAT AGAINST THE REAR OF THE BODY.

CHALK MARK A CENTER LINE AT THE EDGE OF THE REAR OF THE TRUCK FLOOR TO LINE UP WITH THE MARK OF THE LIFT GATE.

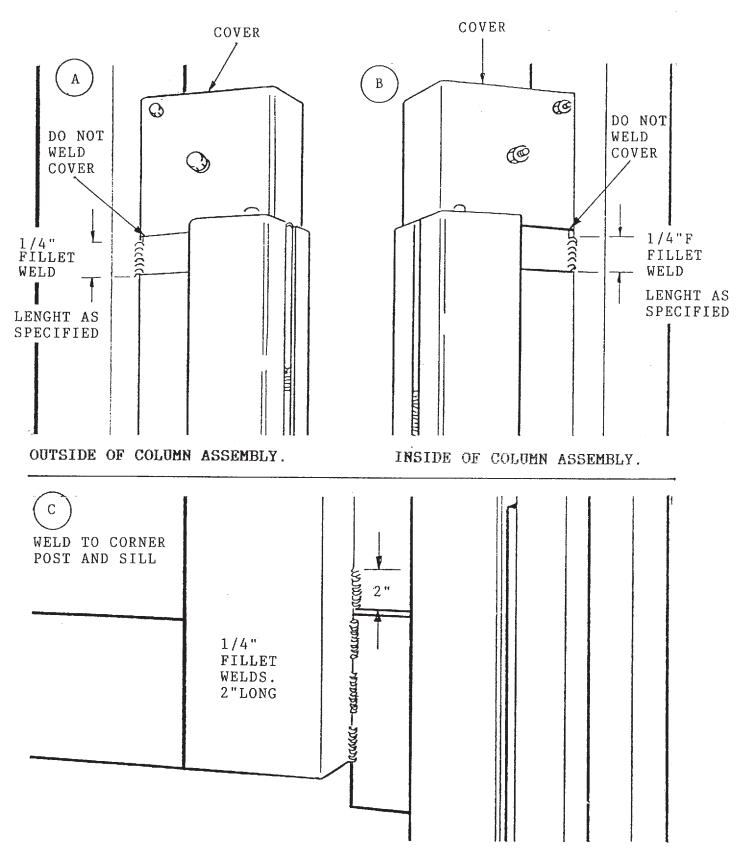
USING THE LIFTING STRAPS THE UNIT CAN NOW BE RAISED EITHER WITH A CHAIN HOIST OR FORK LIFT TO A HEIGHT WHICH WILL ALLOW THE TEMPORARY SUPPORT ANGLES TO REST ON THE BODY FLOOR. THE UNIT CAN BE MOVED TO THE VEHICLE OR THE VEHICLE TO THE UNIT TILL THEY MEET.





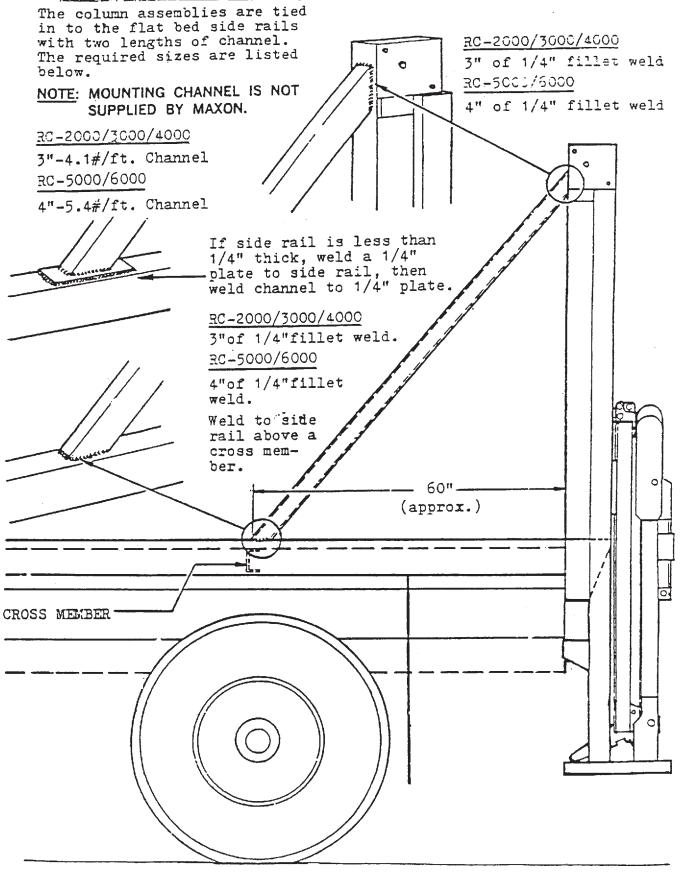
CUT COLUMNS OFF 20 INCHES FROM GROUND.
PLACE THE 2-1/2 INCH X 18 INCH ANGLE IRON PROVIDED UNDER AT LEAST 2 CROSS MEMBERS, IN PREPARATION FOR THE FOLLOWING STEP AND WELD.

CUT ONE END OF EACH OF THE 4 FOOT LONG ANGLE IRON BRACES SO THAT IT LINES UP WITH THE LIFT COLUMN AND THE OTHER END LAYS FLAT AGAINST THE ANGLE IRON REFERRED TO IN THE PREVIOUS PARAGRAPH. - WELD BOTH ENDS - REPEAT ON OTHER SIDE OF LIFT -



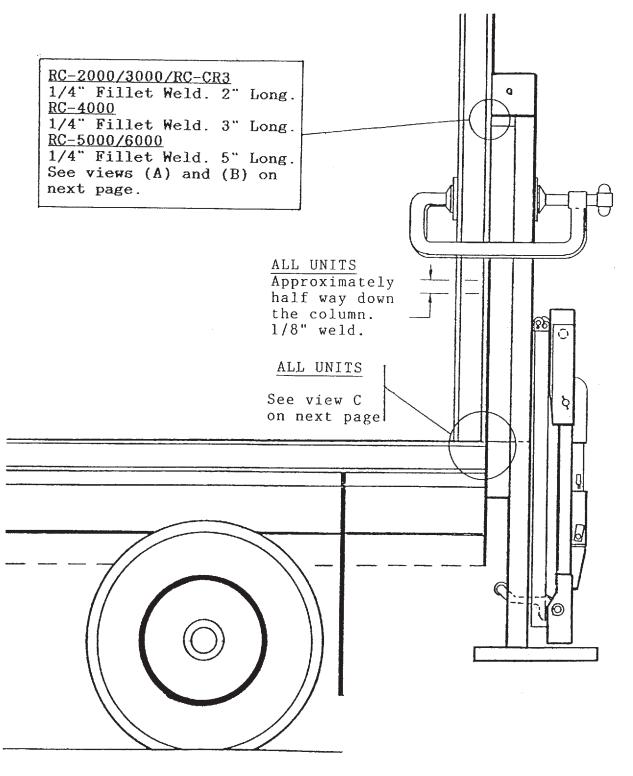
VIEW BOTTOM CORNER OF TRUCK BODY.

WELDING PROCEDURE. FLAT BED VEHICLE.



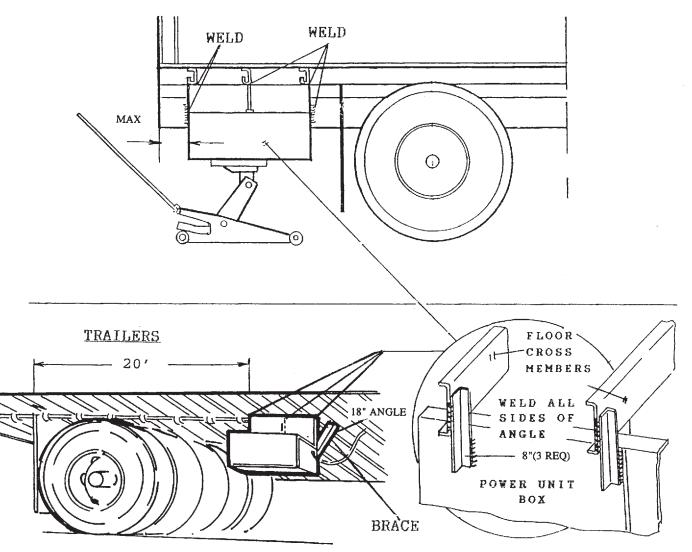
CLAMP COLUMNS TO THE TRUCK BODY AND WELD AS SHOWN.
REMOVE FORK LIFT OR CHAIN HOIST.

REMOVE ANGLE IRON SUPPORTS THAT WERE USED TO HANG AND SAVE FOR LATER USE.



TRUCK BODIES (Not Trailers)

JACK UP THE STEEL BOX CONTAINING THE PUMP ASSEMBLY UNTIL IT TOUCHES AT LEAST TWO CROSS MEMBERS UNDER FLOOR, THREE IF POSSIBLE; AND BACK OF BOX TOUCHES TRUCK CHASSIS FRAME. WELD WHERE INSTRUCTED AND REMOVE JACK. - LEAVE ROOM FOR TAIL LIGHTS -

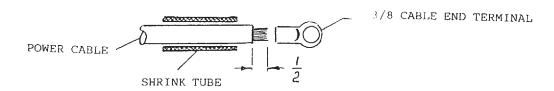


JACK UP THE STEEL BOX CONTAINING PUMP ASSEMBLY UNTIL IT TOUCHES THE BOTTOM OF AT LEAST TWO FLOOR CROSS MEMBERS, THREE IF POSSIBLE, AND TACK WELD. ADD BRACES PROVIDED TO THE BACK OF BOX AND THE SIDE OF THE FLOOR CROSS MEMBERS. WELD BOTH ENDS OF BRACES AND TOP OF BOX. USE SHORT PIECES OF ANGLE IRON PROVIDED TO WELD FROM THE SIDE OF THE FLOOR CROSS MEMBERS TO THE FRONT OF THE BOX.

MAKE SURE THAT THE BOX IS NOT IN A POSITION TO INTERFERE WITH THE WHEELS OF TRAILER WITH SLIDING AXLE.

BOX CAN ALSO BE PLACED BEHIND WHEELS IF ROOM PERMITS.

RUN 32 FT POWER CABLE FROM THE PUMP BOX OF THE LIFTGATE, ALONG THE CHASSIS FRAME TO THE POSITIVE TERMINAL OF THE BATTERY (ASSUMING NEGATIVE IS GROUND). USE FRAME CLIPS TO SECURE THE CABLE. (DO NOT ATTACH TO THE BATTERY TERMINAL UNTIL THE OTHER END IS FASTENED ON THE PUMP). IF THE CABLE IS TOO LONG CUT IT INTO THE PROPER LENGTH.



STRIP ABOUT 1/2" OF INSULATION FROM THE END AND SLIDE ONE OF THE PIECES OF SHRINK TUBE OVER IT FAR ENOUGH DOWN SO IT'S OUT OF YOUR WAY. SOLDER THE TERMINAL END FIRMLY ONTO THE CABLE.

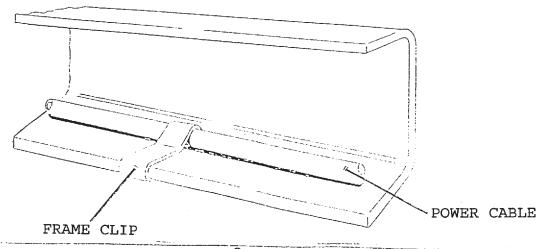
ALWAYS WEAR PROTECTIVE EYE COVERING WHILE YOU ARE DOING SOLDERING OPERATIONS.

WHEN IT'S COOL, SLIDE THE SHRINK TUBE OVER THE TERMINAL END AND HEAT WITH A HEAT GUN TILL IT SHRINKS TIGHTLY OVER THE CABLE AND TERMINAL.

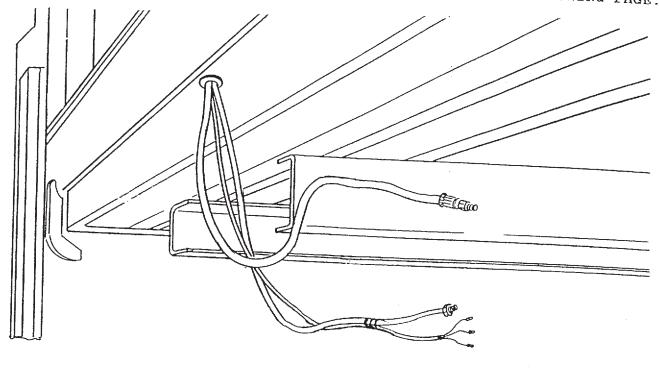
NOTE:

PROPER CABLE CONNECTIONS ARE EXTREMELY IMPORTANT TO INSURE A LONG AND EFFICIENT LIFE TO ALL ELECTRICAL COMPONENTS, THEREFORE, SOLDER TYPE TERMINALS, SOLDER AND SHRINK TUBING ARE PROVIDED TO INSURE PROPER CONNECTIONS. PLEASE DO NOT USE THE HAMMER SMASHING METHOD SINCE THE CONSTANT BOUNCING AND VIBRATION OF THE VEHICLE CAN EVENTUALLY CAUSE THESE TYPES OF JOINTS TO LOOSEN AND DETERIORATE.

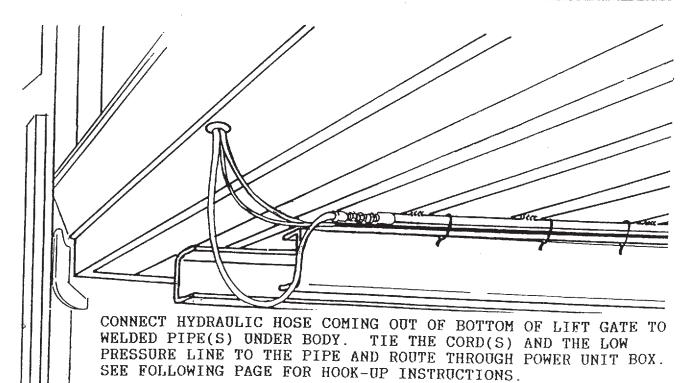
THIS COULD ALSO BE TRUE OF CRIMPING IF NOT DONE PROPERLY OR THE WRONG SIZE TOOL IS USED.



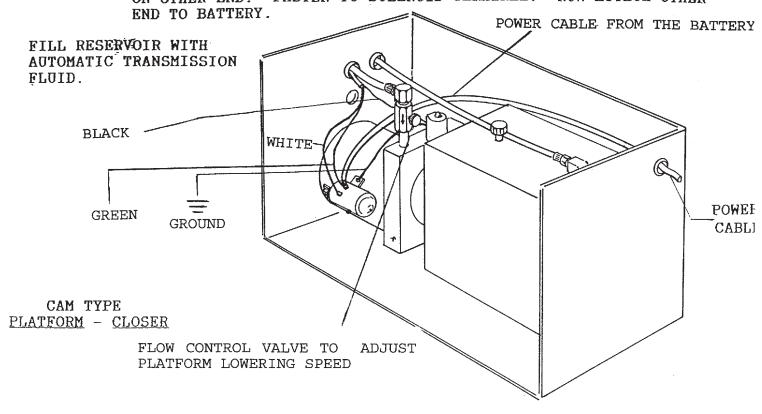
ROUTE THE 2 HOSES (3 IF HYDRAULIC CLOSER) AND THE 3 CONDUCTOR CORD (2 CORDS IF HYDRAULIC CLOSER) THAT COMES OUT OF THE BOTTOM OF THE LIFT GATE MAIN FRAME THROUGH THE POWER PAK BOX AND CONNECT AS SHOWN. SEE ILLUSTRATION ON THE FOLLOWING PAGE.

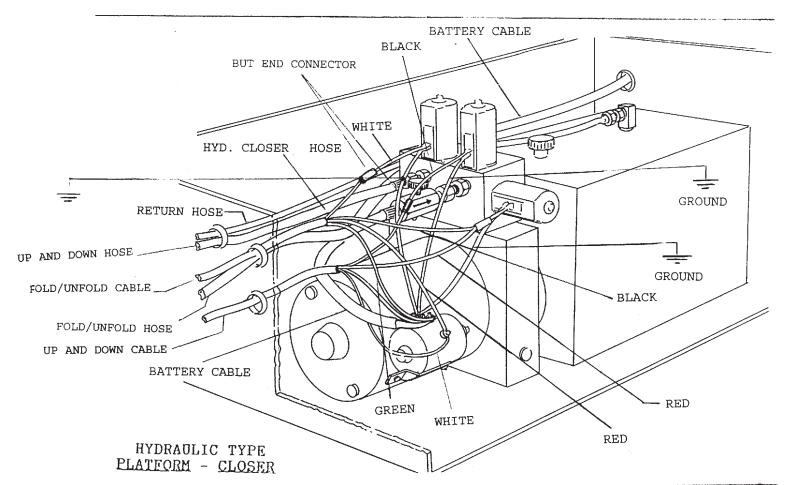


TRAILERS ONLY

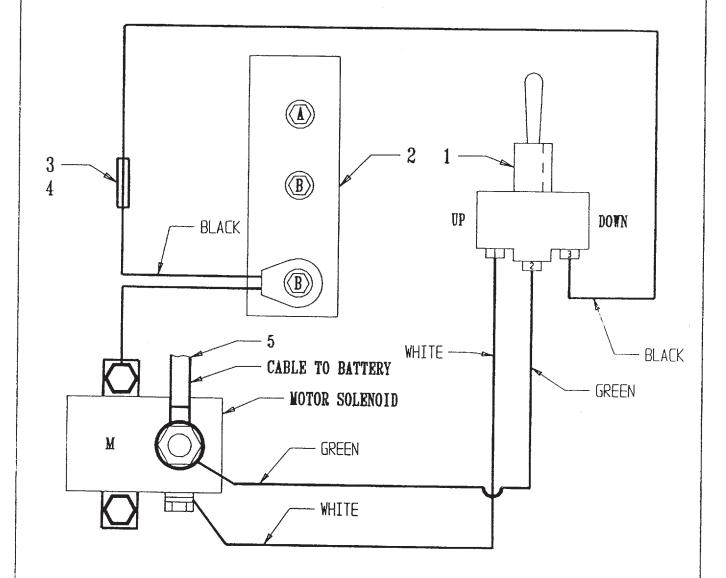


FIT FREE END OF CABLE THROUGH HOLE IN POWER UNIT BOX TO TERMINAL END ON MOTOR SOLENOID. LEAVE A FEW INCHES FOR SLACK AND CUT. FASTEN TERMINAL END USING THE SOLDER METHOD AS USED ON OTHER END. FASTEN TO SOLENOID TERMINAL. NOW ATTACH OTHER



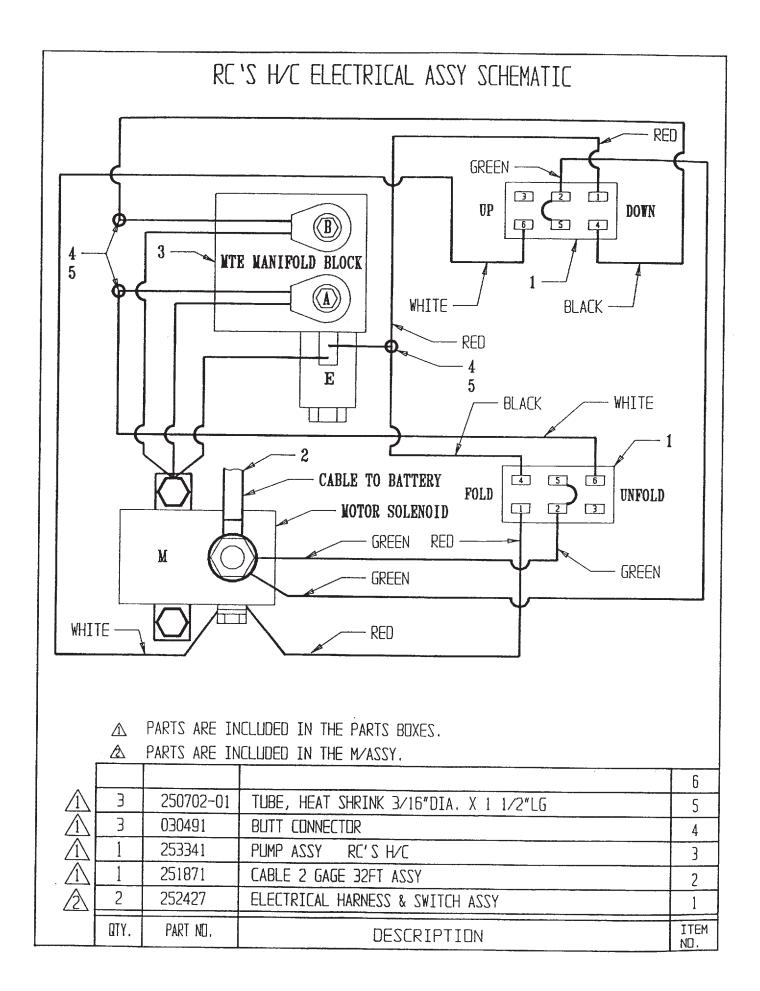


RC'S C/C ELECTRICAL ASSY SCHEMATIC

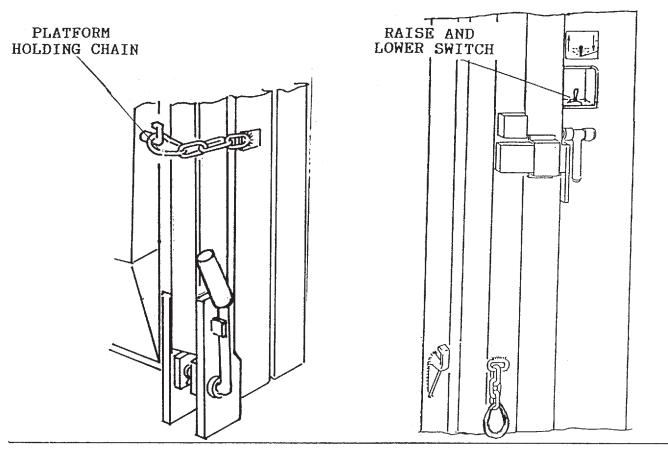


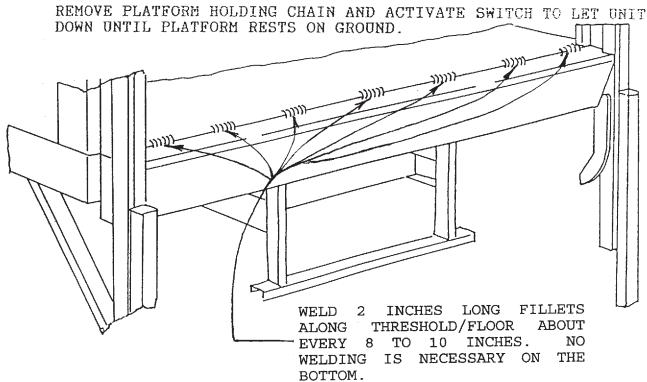
- ⚠ PARTS ARE INCLUDED IN THE PARTS BOXES.
- A PARTS ARE INCLUDED IN THE MASSY.

| \triangle | 1 | 251871 | CABLE 2 GAGE 32FT ASSY | 5 |
|-------------|------|-----------|--|----------|
| \triangle | 1 | 250702-01 | TUBE, HEAT SHRINK 3/16"DIA. X 1 1/2"LG | 4 |
| | 1 | 030491 | BUTT CONNECTOR | 3 |
| \triangle | 1 | 253342 | PLIMP ASSY RE'S H/C | 2 |
| 2 | 2 | 252427 | ELECTRICAL HARNESS & SWITCH ASSY | 1 |
| | QTY. | PART NO. | DESCRIPTION | ITEM NO. |



FILL THE SYSTEM WITH FLUID BY ACTIVATING THE RAISE CONTROL SWITCH TILL THE RUNNERS HIT THE STOPS.



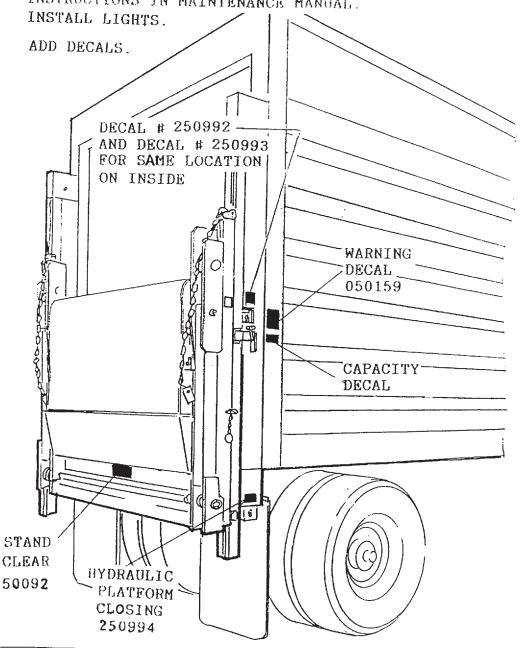


ADJUST FLOW CONTROL VALVE ON POWER PAK SO THAT PLATFORM OPENS FROM A VERTICAL POSITION JUST SLOW ENOUGH SO AS NOT TO CREATE A BANGING CONDITION.

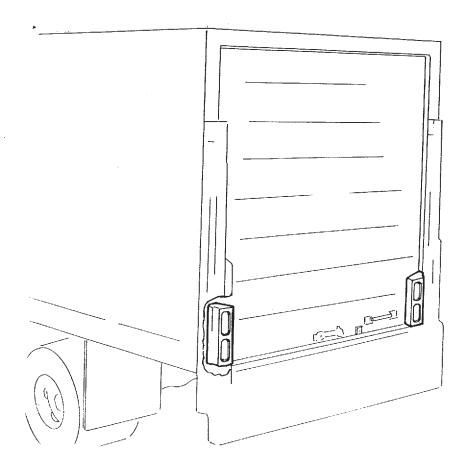
TO ENSURE THAT THE PLATFORM BRAKES ARE WORKING PROPERLY PERFORM THE FOLLOWING SIMPLE TEST:

OPEN PLATFORM AND LET UNIT DOWN SO THAT THE BOTTOM OF THE RUNNER ON ONE SIDE RESTS ON THE TOP OF A FLOOR JACK. RAISE THE JACK ABOUT THREE INCHES OR SO AND LET THE JACK DOWN. THE RUNNER SHOULD STAY IN THE POSITION THAT IT WAS JACKED UP TO. IF IT FALLS BACK DOWN TO ITS ORIGINAL POSITION RESTING ON THE JACK THEN THE BRAKE IS NOT WORKING AND MUST BE CHECKED. TO RELEASE ENGAGED BRAKE, RAISE UNIT.

PERFORM TEST ON OPPOSITE SIDE AS WELL IF PLATFORM RAISES UNEVEN FROM SIDE TO SIDE, ADJUST PER INSTRUCTIONS IN MAINTENANCE MANUAL.

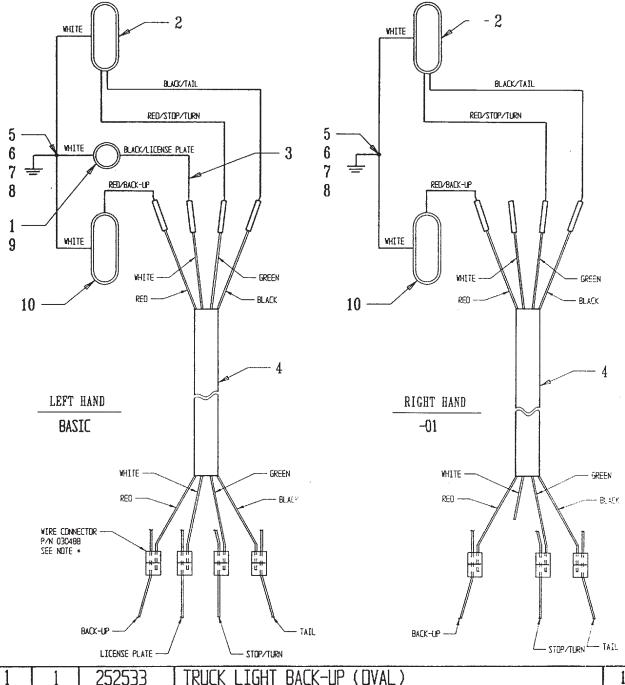


RCT LIGHT INSTALLATION



ALL RCT UNITS INCLUDE BACK LIGHTS.

BACK LIGHTS ELECTRICAL ASSY



| 1 | 1 | 252533 | TRUCK LIGHT BACK-UP (OVAL) | 10 |
|-------------|---------------|----------|--------------------------------------|-------------|
| - | 1 | 253192 | GROMMET | 9 |
| 1 | 1 | 030559 | WASHER,LOCK #10 | 8 |
| 1 | 1 | 030550 | WASHER,FLAT #10 | 7 |
| 1 | 1 | 030447 | SCREW 10/32 X 3/4" | 6 |
| 1 | 1 | 030344 | NUT,HX 10/32 | 5 |
| 1 | 1 | 252535 | CDNNECTING WIRE ASSY | 4 |
| - | 1 | 253193 | MARKER/CLEARANCE PLUG | 3 |
| 1 | 1 | 252532 | TRUCK LIGHT STOP, TAIL & TURN (DVAL) | 2 |
| _ | 1 | 252534 | TRUCK LIGHT CLEAR | 1 |
| -01 UTY. | BASIC UTY. | PART NO. | DESCRIPTION | ITEM NO. |

HAND PUMP OPTION FOR CAM CLOSER UNITS

THE FOLLOWING ARE THE STEPS FOR LIFTING THE PLATFORM BY USING THE HAND PUMP.

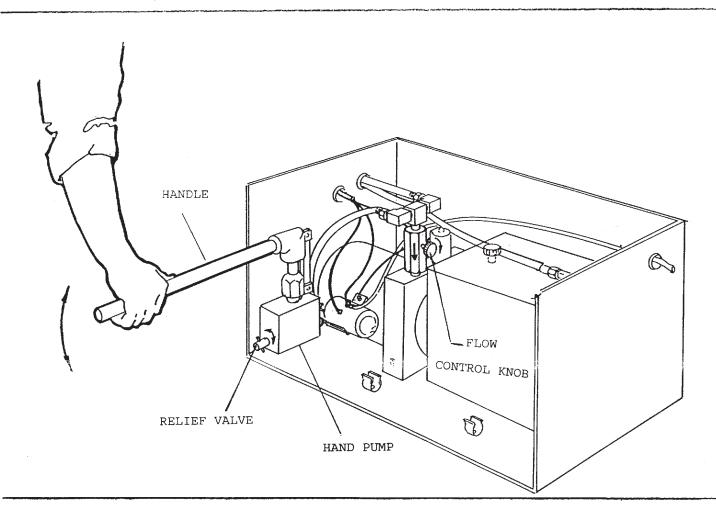
- 1. CHECK IF THE RELIEF VALVE IS CLOSED BY USING THE HANDLE TO TURN IT CLOCKWISE UNTIL COMPLETE STOP.
- 2. CLOSE THE FLOW CONTROL VALVE BY TURNING THE KNOB CLOCKWISE UNTIL IT IS FULLY CLOSED.
- 3. LOCATE THE HANDLE IN THE HAND PUMP AND OPERATE IT WITH UP AND DOWN MOTION.

TO LOWER THE PLATFORM, OPEN THE HAND PUMP RELIEF VALVE SLOWLY TO BE ABLE TO CONTROL THE DOWN SPEED WITH THIS VALVE.

NOTE:

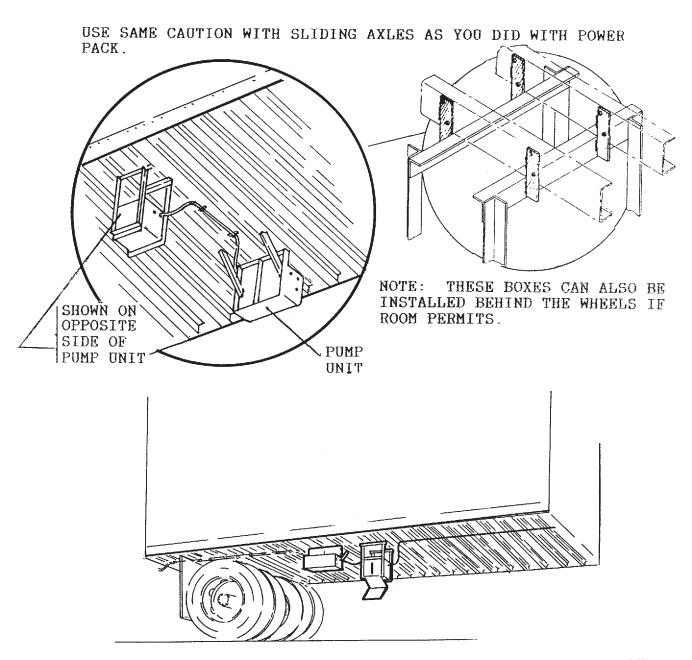
WHEN GOING BACK TO NORMAL OPERATION:

- a) BE SURE TO HAVE THE HAND PUMP CLOSED.
- b) OPEN AND ADJUST THE FLOW CONTROL VALVE.

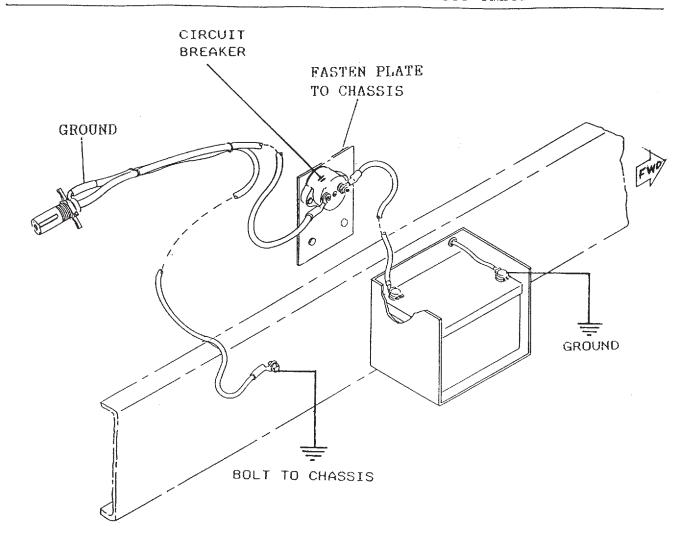


TRAILERS

MOUNT BATTERY PAK ON EITHER SIDE OF BODY, AS CLOSE TO POWER UNIT AS POSSIBLE! USING A FLOOR JACK OR OTHER LIFTING DEVICE, RAISE THE BOX SO THAT ITS TOP TOUCHES THE UNDERSIDE OF THE FLOOR CROSS MEMBERS AND TACK WELD AT THE FOUR LOCATIONS SHOWN, UNLESS THE CROSS MEMBERS ARE ALUMINUM. PLACE THE FOUR PLATES THAT COME WITH THIS KIT ON THE SIDE OF THE CROSS MEMBER AND DOWN TO AND ALONG SIDE OF THE BATTERY PAK FRAME AND WELD TO BOTH STRUCTURES. HOLES ARE PROVIDED IN THESE PLATES FOR BOLTING, IN THE EVENT THE CROSS MEMBERS ARE ALUMINUM.

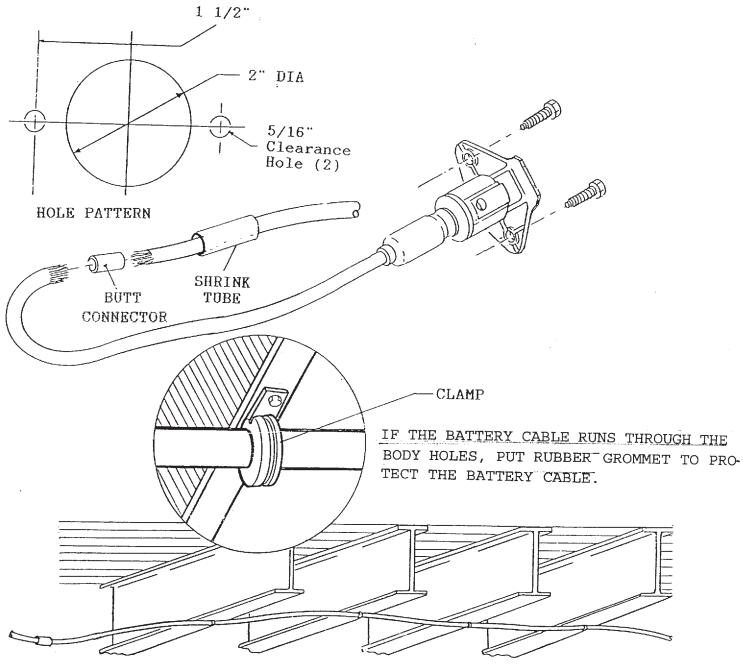


FOR EASIER SERVICE, MOUNT BOXES SO THAT THE FRONT OF EACH BOX IS 1 FOOT IN FROM THE SIDE WALL OF THE TRUCK BODY.



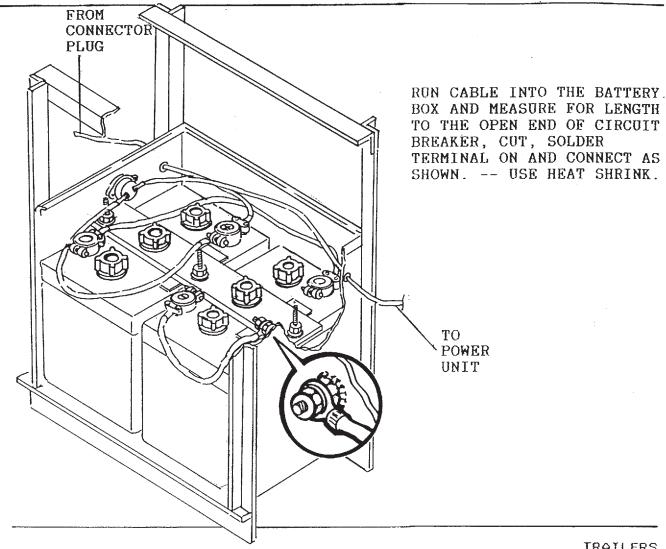
(TRAILERS-ONLY)

SELECT AN AREA ON THE FRONT WALL OF THE TRAILER AS CLOSE TO THE CENTER AS POSSIBLE AND INSTALL THE SOCKET PORTION OF THE CONNECTOR PLUG, USING SCREWS PROVIDED.



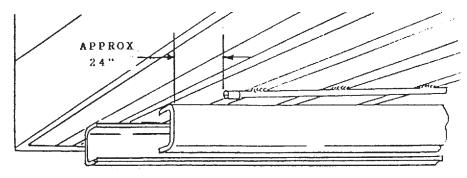
USING BUTT CONNECTOR AND SOLDER (SUPPLIED) SPLICE THIS CABLE TO THE 32' CABLE AND RUN ALONG THE UNDERSIDE OF THE FLOOR CROSS MEMBERS TO THE BATTERY PAK - USE CLAMPS TO SECURE CABLE TO CROSS MEMBERS. HEAT SHRINK TUBE OVER SPLICE TO INSULATE.

CARE SHOULD BE TAKEN TO INSURE THAT THE CABLE DOES NOT COME IN CONTACT WITH SHARP EDGES OF BARE METAL THAT COULD CAUSE THE BREAKING OR WEARING AWAY OF THE INSULATION.

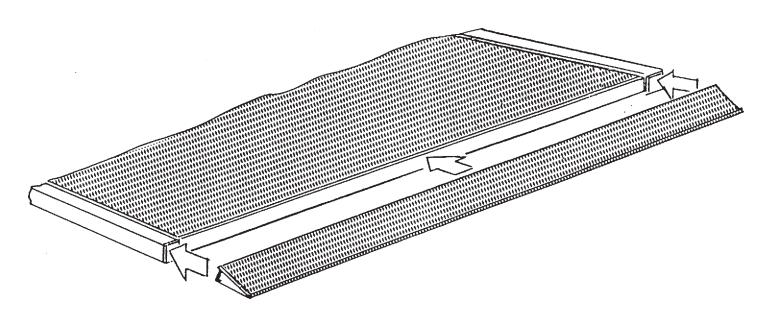


TRAILERS

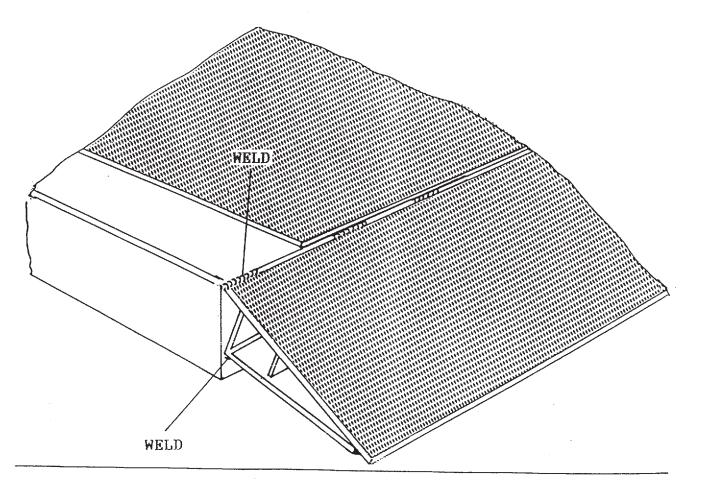
REMOVE THE 7 FOOT LONG PIPE THAT IS STRAPPED TO THIS COLUMN OF THE LIFT GATE (2 PIPES IF LIFT HAS HYDRAULIC PLATFORM CLOSER), AND WELD TO UNDER SIDE OF FLOOR CROSS MEMBERS AS SHOWN - END OF PIPE TO BE ABOUT 2 FEET IN FROM END OF TRUCK BODY. CONNECT THE 4 FOOT HOSE(S) TO THE END OF THE PIPE(S) CLOSEST TO THE POWER UNIT AND THE OTHER END THROUGH THE PUMP BOX TO THE PUMP ASSEMBLY - SEE PAGE 12 FOR DETAILS - BLOW AIR THROUGH PIPES AND HOSES BEFORE CONNECTIONS ARE MADE.



LOWER THE PLATFORM TO LEVEL GROUND. LINE UP TOP EDGE OF RAMP WITH THE FRONT EDGE OF THE PLATFORM.



WELD 1/8 OR 3/16" BEADS TWO INCHES LONG ABOUT EVERY 6 OR 8 INCHES ALONG THE ENTIRE LENGTH OF PLATFORM. REPEAT PROCEDURE ON UNDERSIDE.

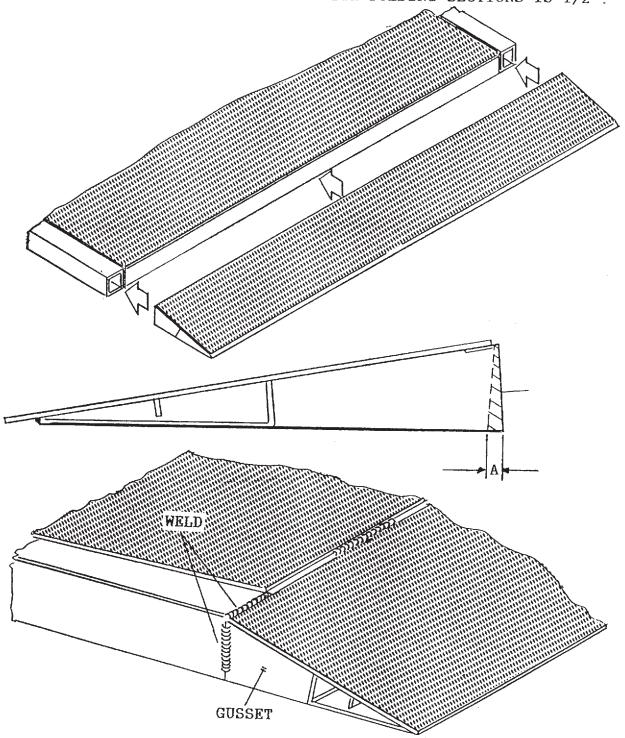


2. LOWER THE PLATFORM TO LEVEL GROUND. LINE UP THE TOP EDGE OF RAMP WITH THE FRONT EDGE OF THE PLATFORM.

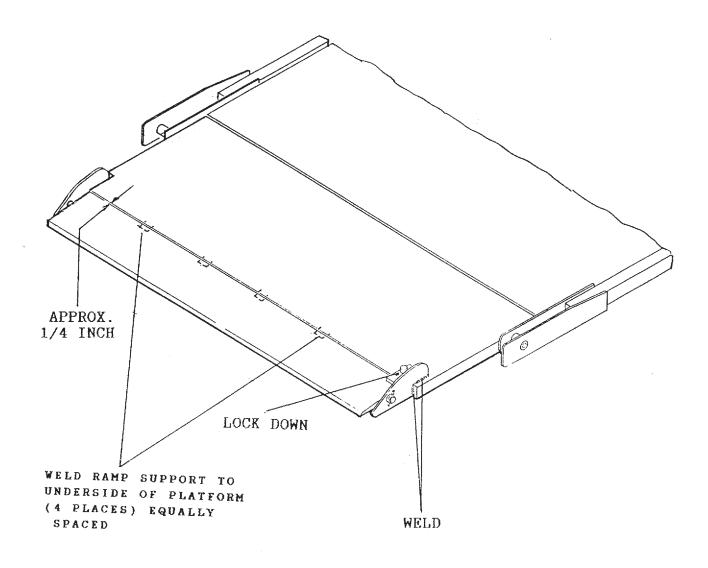
CUT REAR EDGES OF RAMP AS SHOWN.

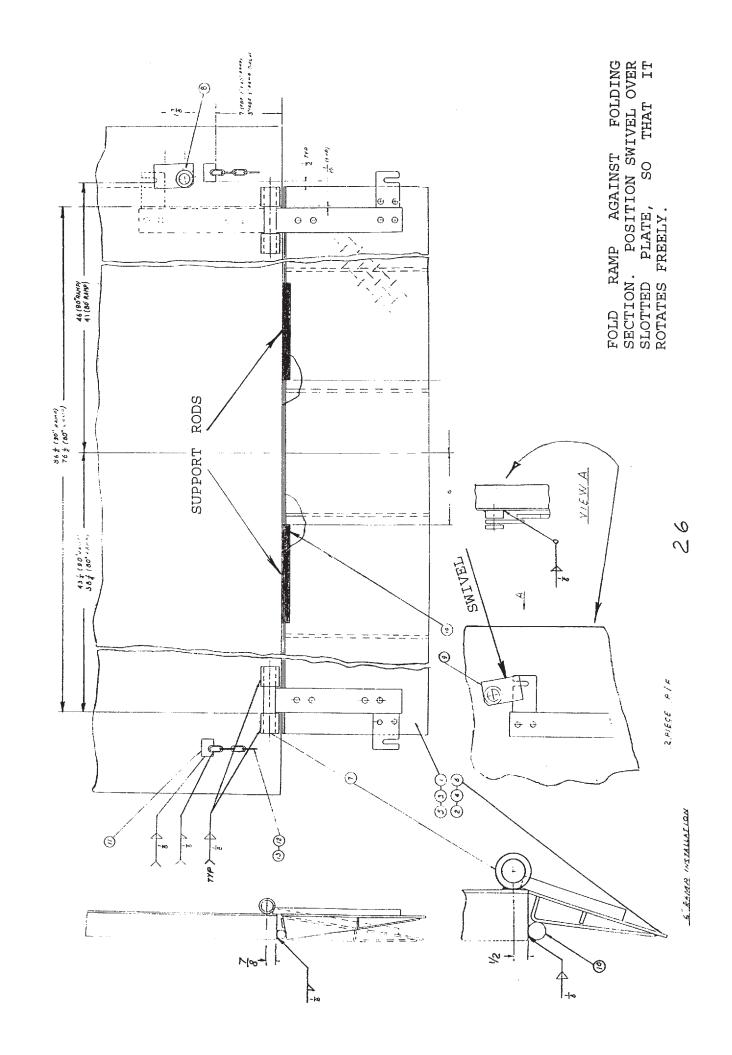
"A" DIMENSION FOR SINGLE PIECE PLATFORMS IS 3/8".

"A" DIMENSION FOR PLATFORMS WITH FOLDING SECTIONS IS 1/2".



WELD 1/8 OR 3/16" BEADS TWO INCHES LONG ABOUT EVERY 6 OR 8 INCHES ALONG THE ENTIRE LENGTH OF PLATFORM. - REPEAT PROCEDURE ON UNDERSIDE - WELD ALL GUSSETS FULL LENGTH -

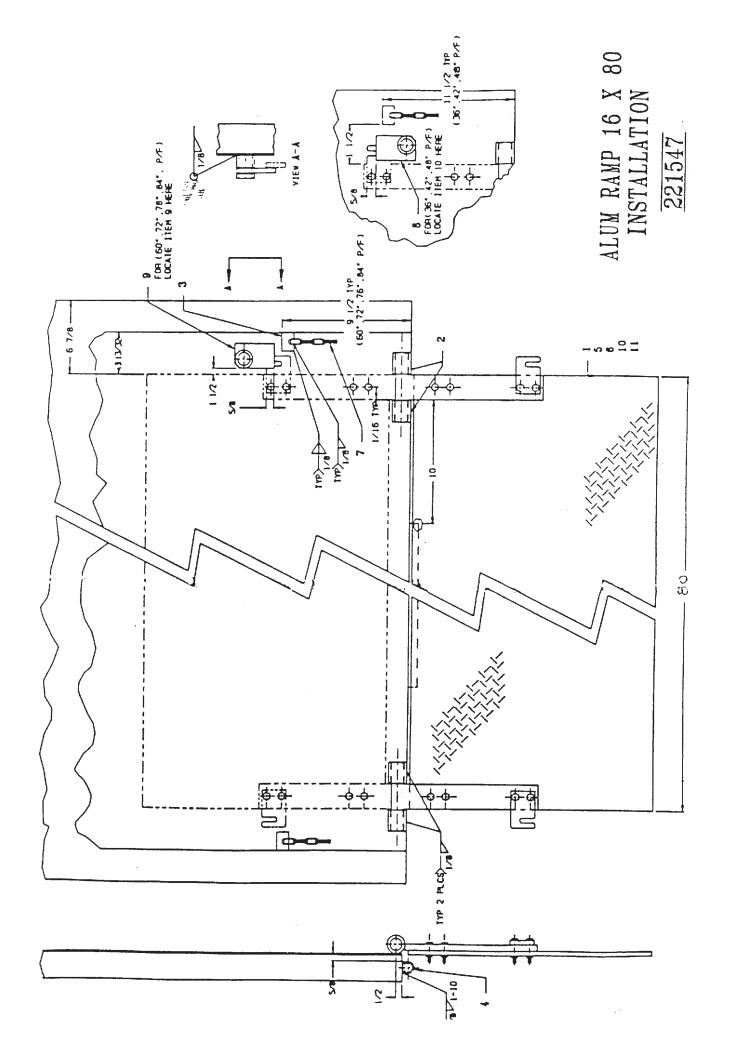




HINGED RAMP INSTALLATION

(-1) 12"x 30" RAMP FOR 36"\$ 102" 1PIECE
(-2) 6"x 90" RAMP FOR 36"\$ 102" 1 PVECE
(-4) 6"x 80" RAMP FOR 36" 2 PVECE
(-4) 6"x 80" RAMP FOR 36" 2 PVECE
(-5) 20" x 30" RAMP FOR 36" 2 PVECE
(-5) 20" x 30" RAMP FOR 102" 2 PVECE
(-8)6" x 30" RAMP FOR 102" 2 PVECE

| Ī | 3 | 2 | = | 0 | 9 | 90 | 7 | .0 | ار' | A | m | Ŋ | _ | E S |
|------------------------------------|-----------------------|----------------------|-----------------------|--------|--------------------------------|--------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|-------------------------------------|-----------------------------|
| | 202698-43 CHAIN × 11" | 202698-41 CHAIN× 18" | 201020 3/8×1×1/2 FLAT | 6 | 221739-2 LATCH PLATE WELDINENT | 22 1739-1 LATCH DLATE WELDMENT | 74002-2 1 \$ 00x1,01510x13466 TUGE | 225989-62078 80 ARMOR & HINGE 433Y | 225989-5 20*x 90"RAMD & HINGE ASEY | 225989-4 6"X80" RAMP & MINGE ASSY | 225989-3 12"480"RAMMD & HINGE 11:1 | 225989-2 6"x 90"RAMA & HINGE ASSY | 225989-1 18"X90"RAND & HINGE ASSY 1 | NOMENCLATURE OR DESCRIPTION |
| li . | 202698-43 | 202698-41 | 201020 | 225338 | 221739-2 | 22/738-1 | 74002-2 | 225983-6 | 225883-5 | 225983-4 | 225989-3 | 2-5865-5 | 7-8865-2 | PART OR |
| אה כל | ١ | 2 | a | 0 | | - | 4 | | | | | | - | -1 |
| 5 | 0 | 1 | 7 | a | | - | 4 | | | | | - | | -2 |
| 10. | 1 | 0 | 10 | 2 | - | | 4 | - | | | _ | | | -6-5-4-3 |
| 4 | 7 | 1 | ~ | 2 | | | 4 | - | | - | | | | 4- |
| 400 | 1 | 0 | 10 | 17 | | _ | 4 | - | - | | | | | 4 |
| ,00 × | 1 | 0 | 10 | 2 | - | | 4 | - | | | | | | - 6 |
| (3)20"x 90" PAMP FOR 102" 7 PIFECE | 1 | a | 10 | 100 | _ | | A | | | | | | - | - 7 |
| ×. | 0 | J { | 0 | 10 | - | | A | 7 | | | | _ | | α |
| | 1 | C | 10 | 10 | - | - | A | | | | | | | Q |



221547

ALUM RAMP 16 X 80 INSTALLATION

| 4 | 13 | 112 | = | 9 | 9 | ο α | 2 | رح | 0 | , 4 | | , ~ | - | I Z | |
|---|----|-----|-------------------|------------------------------------|----------------------|----------------------|-----------|------------------------|----------|------------|--------------|------------|--------|-------------|---|
| | | | RAMP ASSY 16 X 70 | ALUM. RAMP ASSY 20 X 80 REINFORCED | LATCH PLATE WELDMENT | LATCH PLATE WELDMENT | | ALUM RAMP ASSY 20 x 80 | × | 1, 80-60'1 | × 1 1/2 FLAT | 0.0 × 1 1. | | DESCRIPTION | |
| | | | 221543-100 | 229569-01 | 221739-2 | 221739-1 | 202698-41 | 229569 | 221543-1 | 225985 | 201020 | 074002-02 | 221543 | PART NO. | |
| | | | 1 | 1 | | ı | 2 | 1 | ł | 1 | 2 | 4 | - | -01 | 16" X 80" 2 PIECE |
| | | | 1 | 1 | 1 | - | 2 | J | 1 | 1 | 2 | 4 | | -02 | 1e., X 80., I DIECE |
| | | | 1 | ı | | ı | \sim | 1 | | | 7 | 4 | 1 | -03 | KEINFORCED 16" X 80" S PIECE |
| | | | | 1 | | 1 | 7 | | 1 | | 2 | 4 | 1 | -04 | SO., X 80., S PIECE |
| | | | 1 | ı | 1 | | 7 | | ι | | 2 | 4 | 1 | -05 | So., X 80., 1 PIECE |
| | | | ı | | _ | ı | 2 | 1 | 1 | - | 5 | 4 | ı | 90- | KEINŁOKCED |
| | | | 1 | 1 | 1 | | 2 | 1 | | - | 2 | 4 | _ | -07 | SO., X 80., S PIECE |
| | | | 1 | 1 | 1 | | ~ | 1 | | | 7 | 4 | ı | -08 | IC., X 80., I PIECE KEINFORCED |
| | | | - | 1 | - | ı | ~ | ı | 1 | | ~ | 4 | i | 60- | S0 X 80 I BIECE 84 BODA 16 X 20 S BIECE |