



Document Number:

HD913-INST

Description:

**INSTRUCTION SHEET, DUC TO
PR/SPR, W/ POWER LIFT**

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Signature MFG: *Pal* 4/28/21

Rev	Date	ECN	Description	RC	DWN
-	6/21/12	-	INITIAL RELEASE	-	AC
A	5/22/15	12741	REPLACED FIGURE 11	5	AC
B	11/19/19	14248	ADDED HD380 CONFIG, CHANGE TO POWER POINT	5	TW
C	1/22/20	14276	ADDED HD313 TO BOM	4	KC
D	4/19/21		SKIPPED REV DUE TO REDLINE REV SCHEME		GMG
E	4/19/21	14545	ADDED -2 CONFIGURATION		GMG

BILL OF MATERIAL						
-2	-1	BASIC	ITEM	DESCRIPTION	PART NO	NOTE
0	2	2	1	CLAMP, CABLE, NYLON, .375 ID	121003	
2	1	2	2	SCREW, PAN, 10-32 X 3/8 SST	103031	
2	2	2	3	WASHER,FLAT,#10 SST	100140	
0	0	2	4	CABLE,Y-CBL,HD12>PR/SPR,40"L,DUC	HD308-1	
0	1	1	5	BRACKET, MOUNTING, SPLITTER CABLE, HD CAMERA	HD047	Reference
0	2	2	6	SCREW, STD CAP, HEX, SKT, .25-20 X .312, 18-8, SST	HW2353	Reference
0	1	1	7	SCREW, STD CAP, HEX, SKT, 10-32 X .750, 18-8, SST	100121	Reference
0	1	1	8	SCREW,BIND,8-32X5/8 ZINC PLATED	712428	
0	2	0	9	ADAPTER,HD12>CATVS,STRAIGHT,40"	HD342-1	
0	3	3	11	MRO-TIE,CABLE,3/16"X14"BLACK	440302	
1	1	1	12	QINST SHEET,KIT,DUC TO SPR,W/P-LIFT	HD913-INST	
0	1	1	13	CABLE ASSY,PR/SPR>PWR LIFT F/HD CAM	HD313	
2	0	0	14	ADAPTER,DUC,PR,5PIN M12,WITH LIFT	HD358	
2	0	0	15	WASHER,FLAT,#8 SST	100139	
2	0	0	16	SCREW,PAN HD,8-32X3/4,PHL,SST	HW337	
2	0	0	17	CLAMP,TUBING INSULATED,1/4"	121107	
2	0	0	18	CLAMP,TUBING INSULATED,1/2"	121104	

Camera Cable Configuration Matrix				
Camera	HD300	HD300-1	HD300-2	HD380
Cable	HD308-1	HD308-1	HD342-1	HD342-1 / HD358

Description: This document details the installation of the camera connection cables for the DUC cameras on the Pipe Ranger and Steerable Pipe Ranger SPR, with a WS308 Power lift, which is not included in this kits. There are several versions of the DUC camera. The HD300 and the HD300-1 versions use the right angle connector cable HD308-1. The HD300-2 and HD380 versions utilize the straight connector cable HD342-1. HD358 is used on legacy 12 pin systems and it is only compatible with the HD380 camera. This document is divided into five sections:

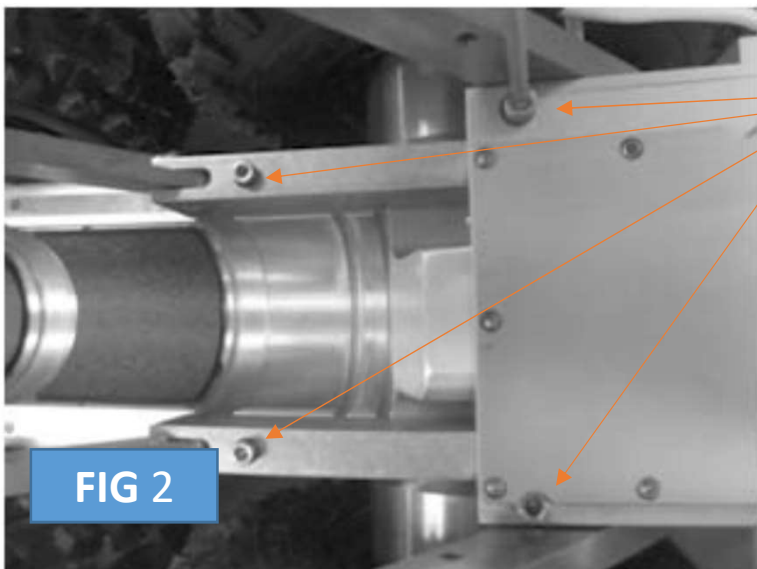
- 1) Preparing the lift for the DUC camera, which is common to both cameras.
- 2) For the HD300 & HD300-1 cameras which use the right angle connector adapter cable HD308-1.
- 3) For the HD300-2 & HD380 cameras which use the straight connector adapter cable HD342-1.
- 4) For installing the camera into the lift and dressing the cables onto the transporter and lift which is common to both cameras.
- 5) For the HD380 camera when used in 12 pin legacy systems, which uses the adapter cable HD358.

Section 1 – Lift Preparation Instructions



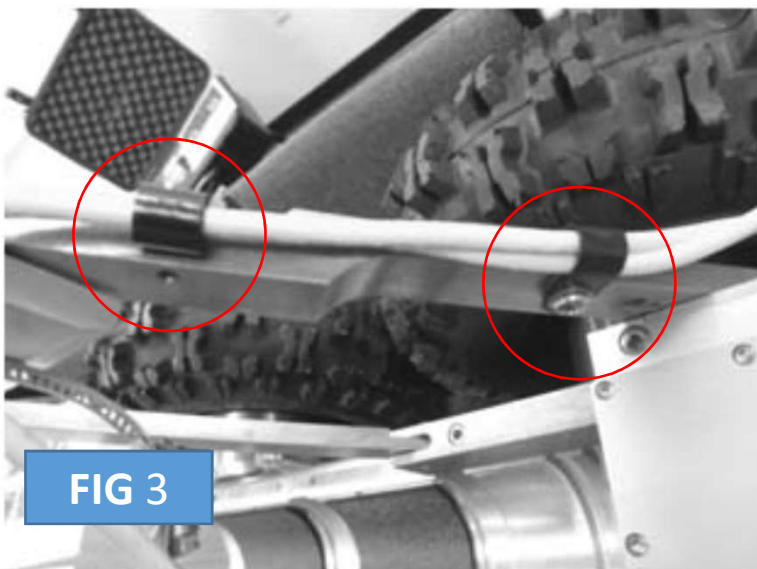
STEP 1

UNPLUG Y-ELIMINATOR FROM TRANSPORTER AND LIFT. SEE FIGURE 1.



STEP 2

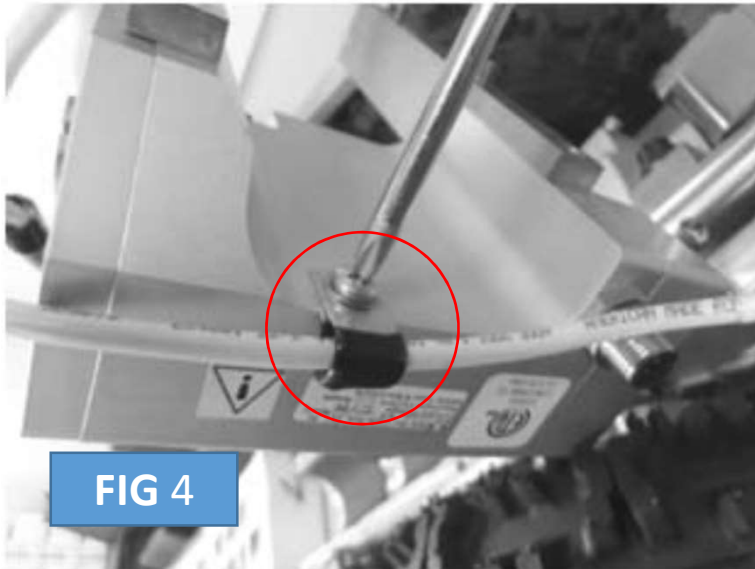
REMOVE LIFT ASSEMBLY FROM TRANSPORTER ASSEMBLY BY UNSCREWING THE 4 MOUNTING SCREWS. THESE SCREWS WILL BE RE-USED. SEE FIGURE 2.



STEP 3

REMOVE BOTH CABLE CLAMPS FROM LIFT ARM. SEE FIGURE 3.

Section 1 – Lift Preparation Instructions



STEP 4

REMOVE THIRD CABLE CLAMP FROM THE BOTTOM OF THE LIFT ASSEMBLY. SEE FIGURE 4.

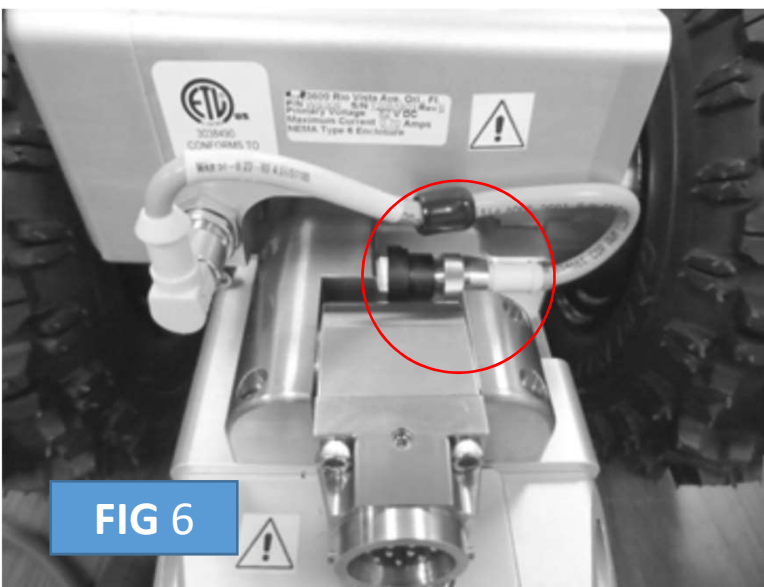
NOTE: IF INSTALLING THE HD358 CABLE, SKIP THE NEXT STEPS IN SECTION 1 AND GO TO SECTION 5.



STEP 5

INSTALL LIFT CABLE (HD313) ON LIFT ASSEMBLY USING CLAMP 121107, WASHER 100140 AND SCREW 103031. SEE FIGURE 5.

CONNECT THE 90° PLUG TO THE LIFT MAKING SURE THE CONNECTOR IS SEATED ALL THE WAY. SEE FIGURE 5.



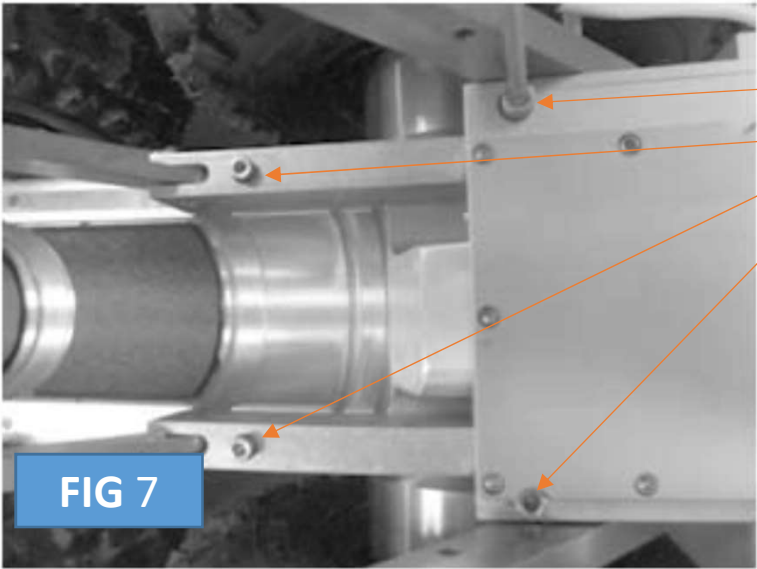
STEP 6

SET THE LIFT IN PLACE AND PRIOR TO RE-ATTACHING, CONNECT THE HD313 CABLE TO THE 5-PIN CONNECTOR ON THE TRANSPORTER BODY MAKING SURE THE CONNECTOR IS SEATED ALL THE WAY. SEE FIGURE 6.

Section 1 – Lift Preparation Instructions

STEP 7

RE-INSTALL THE LIFT ASSEMBLY ON THE TRANSPORTER ASSEMBLY BY RE-INSTALLING THE PREVIOUSLY REMOVED SCREWS. SEE FIGURE 7.



Section 2 - HD300, HD300-1 Cable Installation Instructions

STEP 1

INSTALL (HD308-1) CABLE TO THE BRACKET (HD047), USING SCREW (100121). NOTE: THE BOSS ON SPLITTER MUST FIT INTO HOLE ON BRACKET. SEE FIGURE 8.



STEP 2

INSTALL BRACKET (HD047) WITH SCREWS (HW2353) TO THE CAMERA. NOTE: IT MAY BE NECESSARY TO FIRST REMOVE SET SCREWS INSTALLED IN THIS LOCATION. SEE FIGURE 9.



STEP 3

ROUTE HD308-1 CABLE AS SHOWN AND CONNECT IT TO THE CAMERA. SEE FIGURE 10.



Section 3 - HD300-2 and HD380 Cable Installation Instructions

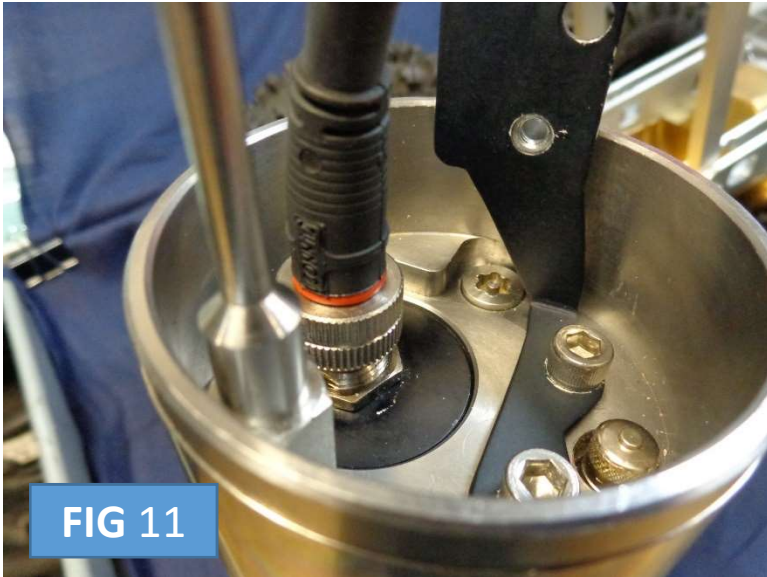


FIG 11

STEP 1

ATTACH CABLE HD342-1 TO THE CAMERA BEING CAREFUL TO LINE UP THE CONNECTOR PROPERLY SO AS NOT TO DAMAGE THE PINS. SEE FIGURE 11.



FIG 12

STEP 2

PUSH THE CABLE FORWARD AND LOOP IT AS SHOWN IN PREPARATION TO ATTACH IT TO THE MOUNTING BRACKET. SEE FIGURE 12.

Section 3 - HD300-2 and HD380 Cable Installation Instructions



STEP 3

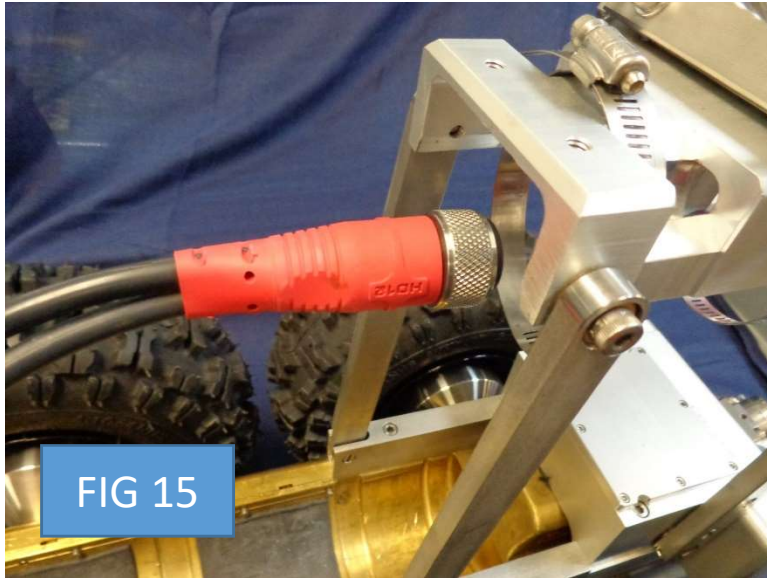
ALIGN THE STRAIN RELIEF BLOCK WITH THE MOUNTING BRACKET AND WITH THE RUBBER LOCATING FEATURE. SEE FIGURE 13.



STEP 4

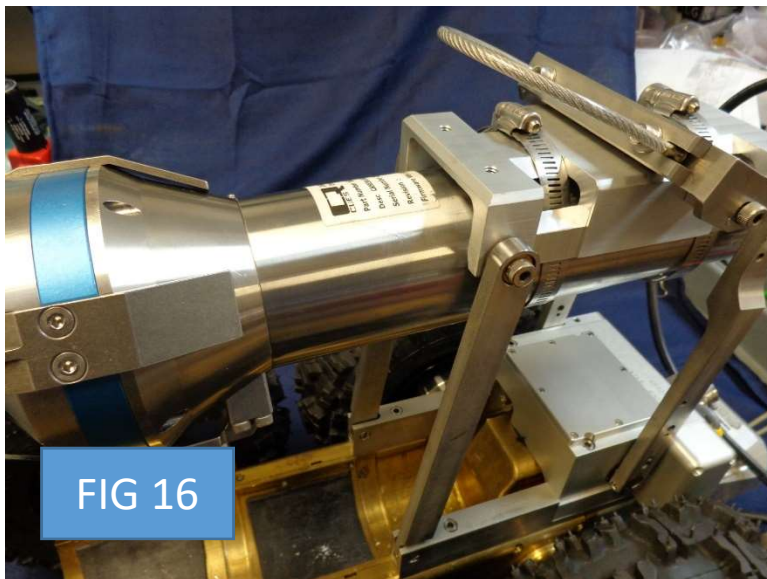
ALIGN THE MOUNTING SCREW (100121) TO THE THREADED HOLE IN THE BRACKET AND TIGHTEN. IT MAY BE NECESSARY TO ROTATE THE RUBBER STRAIN RELIEF BLOCK WHILE PUSHING ON THE SCREW IN ORDER TO “FEEL” THE SCREW FALL INTO THE MOUNTING HOLE. NOTE THE PROPER ANGLE OF THE MOUNTING BLOCK AND DO NOT OVERTIGHTEN THE MOUNTING SCREW. THE SCREW SHOULD BE SNUG AND BOTTOMED OUT IN IT’S POCKET BUT NOT DEFORMING THE MOUNTING BLOCK OR BURYING ITSELF INTO THE RUBBER. SEE FIGURE 14.

Section 4 – Installing the Camera into the lift



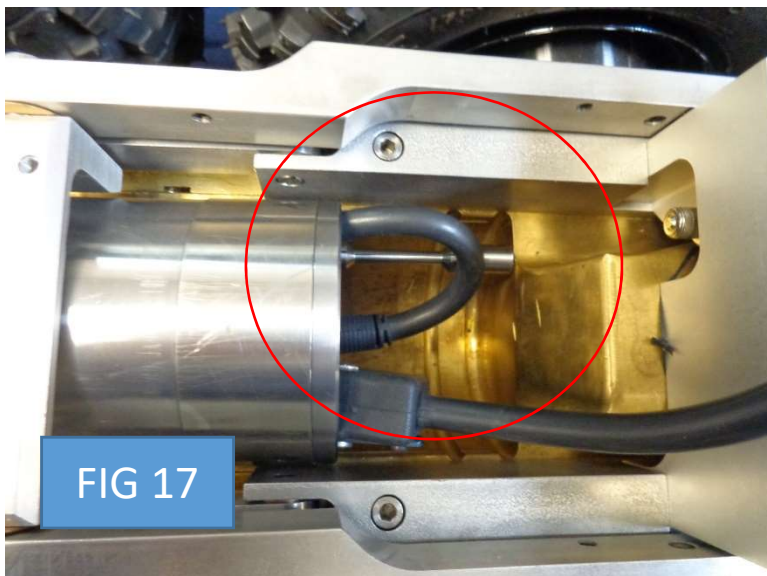
STEP 1

PLACE THE POWER LIFT IN THE UP POSITION. INSERT HD308-1 OR HD342-1 CABLE THROUGH THE TWO HOSE CLAMPS ON THE MANUAL LIFT. SEE FIGURE 15.



STEP 2

INSERT THE CAMERA THROUGH THE TWO HOSE CLAMPS ON THE POWER LIFT. SEE FIGURE 16.



STEP 3

PLACE THE POWER LIFT DOWN, ALIGN THE CAMERA UPRIGHT AND SLIDE THE CAMERA ALL THE WAY BACK UNTIL THE STOP BAR ENGAGES WITH THE BACK POCKET. SEE FIGURE 17.

Section 4 – Installing the Camera into the lift



FIG 18

STEP 4

ROTATE THE CAMERA UNTIL THE TOP FORK IS PARALLEL WITH THE POWER LIFT CAMERA CRADLE. SEE FIGURE 18.

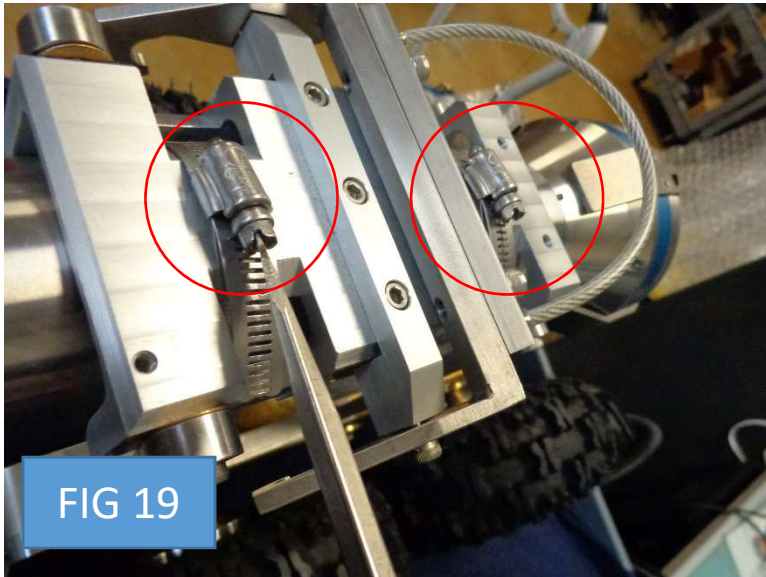


FIG 19

STEP 5

TIGHTEN THE TWO HOSE CLAMPS ON THE POWER LIFT CAMERA CRADLE. SEE FIGURE 19.

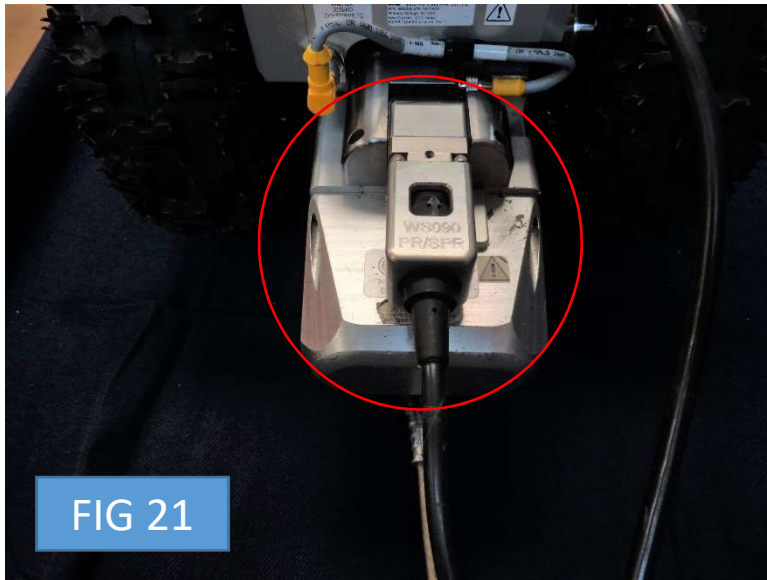


FIG 20

STEP 6

ALIGN AND PLUG THE HD308-1 OR THE HD342-1 TO THE TRANSPORTERS 12 PIN CONNECTOR. SEE FIGURE 20.

Section 4 – Installing the Camera into the lift



STEP 7

INSERT STRAIN RELIEF (WS090) ONTO HD308-1 OR HD342-1 12 PIN CONNECTOR, TWIST AND TIGHTEN IT TO THE TRANSPORTER. SEE FIGURE 21.



STEP 8

- INSTALL ONE CABLE CLAMP (121003) TO THE REAR ARM USING SCREW (103031). SEE FIGURE 22.
- INSTALL THE OTHER CABLE CLAMP (121003) TO THE LIFT BODY USING SCREW (712428) AND WASHER (100140). SEE FIGURE 22.

Section 4 – Installing the Camera into the lift



FIG 23

STEP 9

ADD A TIE WRAP TO THE TWO HD308-1 OR HD342-1 PIGTAILS. SEE FIGURE 23.

STEP 10

PROCEDURE COMPLETE. SEE FIGURE 24.

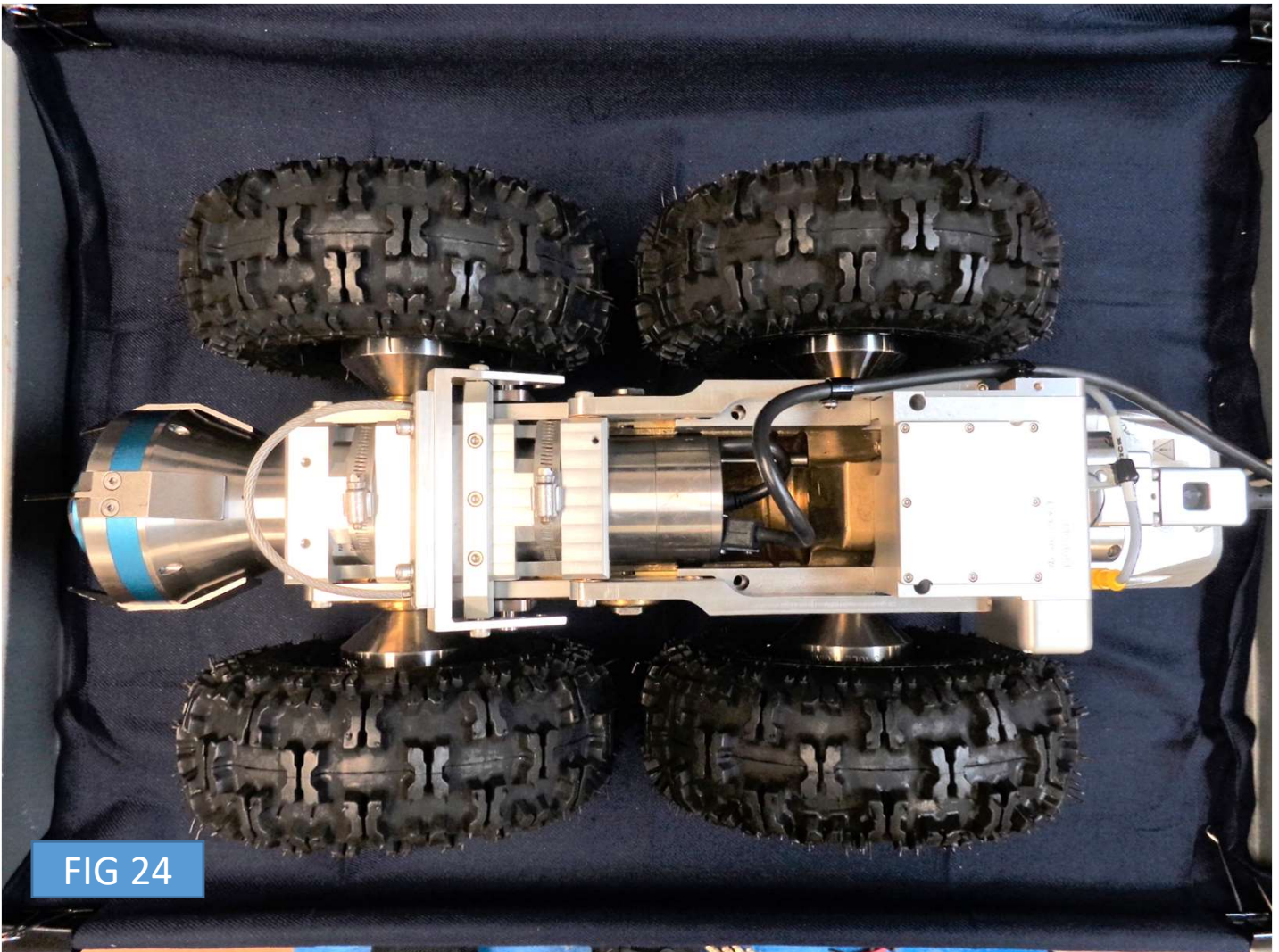


FIG 24

Section 5 – Installing the HD380 Camera into the lift when used in a legacy 12 pin system



FIG 25

STEP 1

INSERT SCREW (HW337) AND WASHER (100139) THROUGH THE BLUE SPLICE BLOCK (PART OF HD358) AND TIGHTEN SCREW INTO LIFT . THE NIPPLE ON THE BLUE SPLICE BLOCK MAY BE CUT IF PRESENT. SEE FIGURE 25.



FIG 26

STEP 2

CONNECT THE 90° GRAY PLUG TO THE LIFT MAKING SURE THE CONNECTOR IS SEATED ALL THE WAY. SEE FIGURE 26.

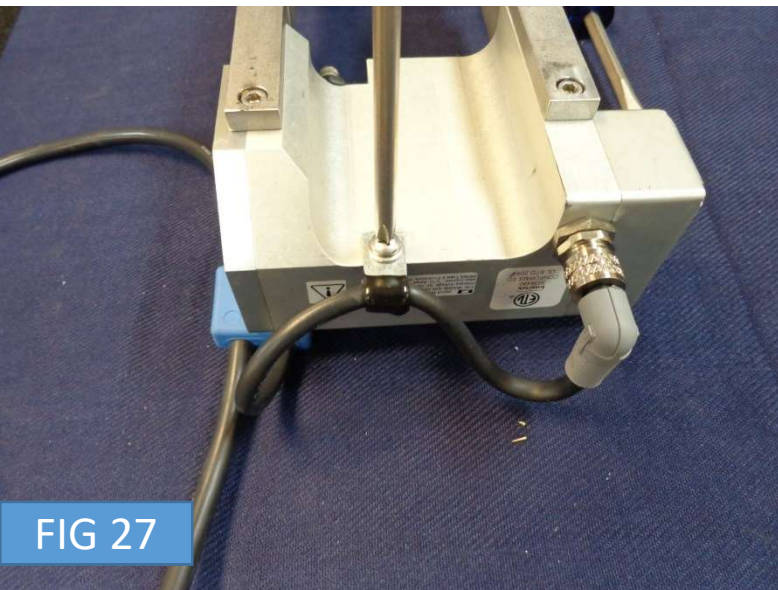


FIG 27

STEP 3

INSTALL THE CABLE CLAMP (121107), WASHER (100140) AND SCREW (103031). SEE FIGURE 27.

Section 5 – Installing the HD380 Camera into the lift when used in a legacy 12 pin system

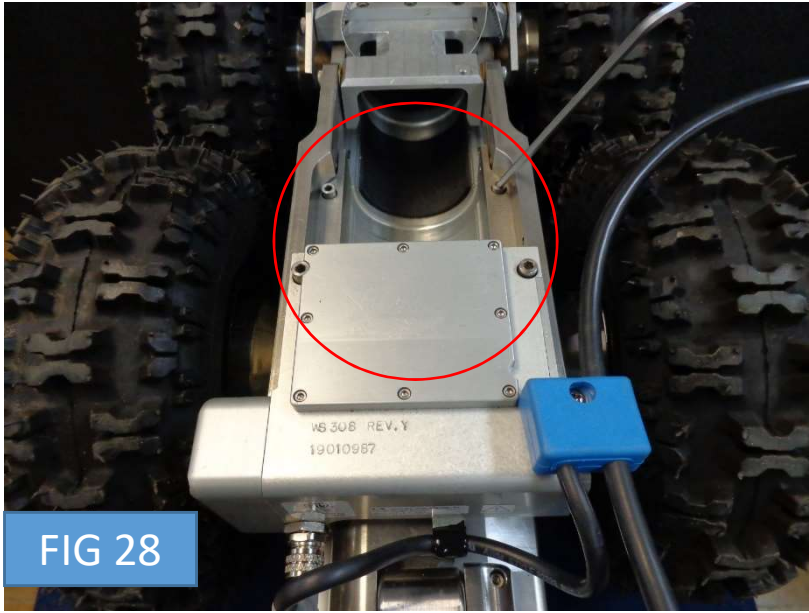


FIG 28

STEP 4

REINSTALL THE LIFT BY TIGHTENING THE FOUR PREVIOUSLY REMOVED LIFT SCREWS. SEE FIGURE 28.



FIG 29

STEP 5

CONNECT THE STRAIGHT RED PLUG TO THE TRANSPORTER MAKING SURE THE PLUG IS SEATED ALL THE WAY. SEE FIGURES 29.

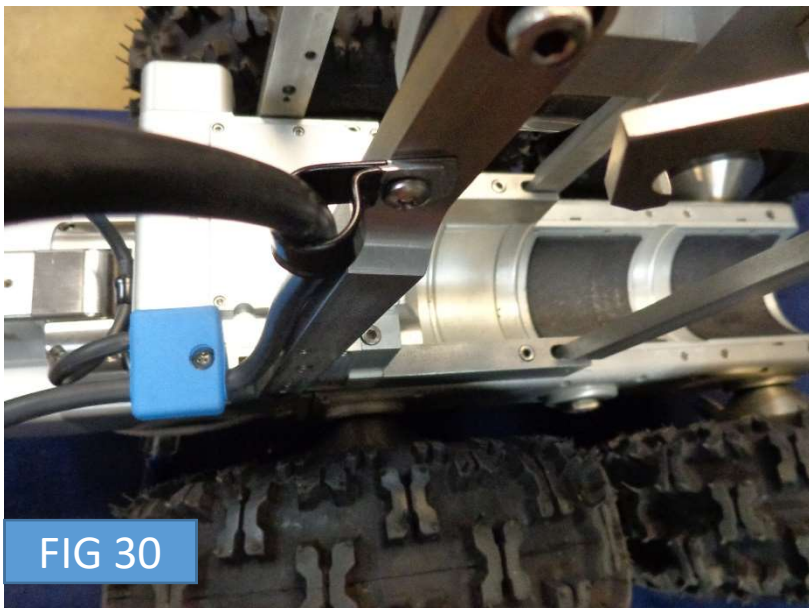


FIG 30

STEP 6

BRING THE LIFT TO THE UP POSITION AND INSTALL CABLE CLAMP (121104) AND SCREW (103031). SEE FIGURE 30.

Section 5 – Installing the HD380 Camera into the lift when used in a legacy 12 pin system

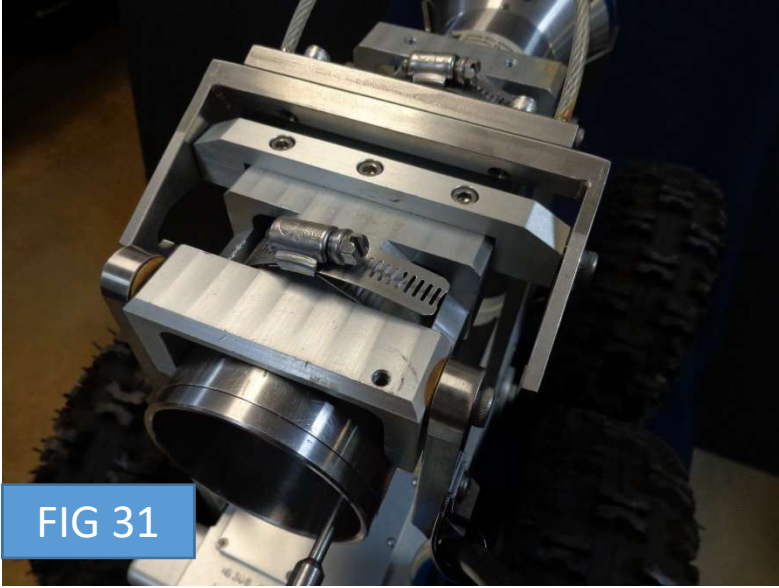


FIG 31

STEP 7

INSERT THE HD380 CAMERA THROUGH THE TWO LIFT CRADLE HOSE CLAMPS. SEE FIGURE 31.

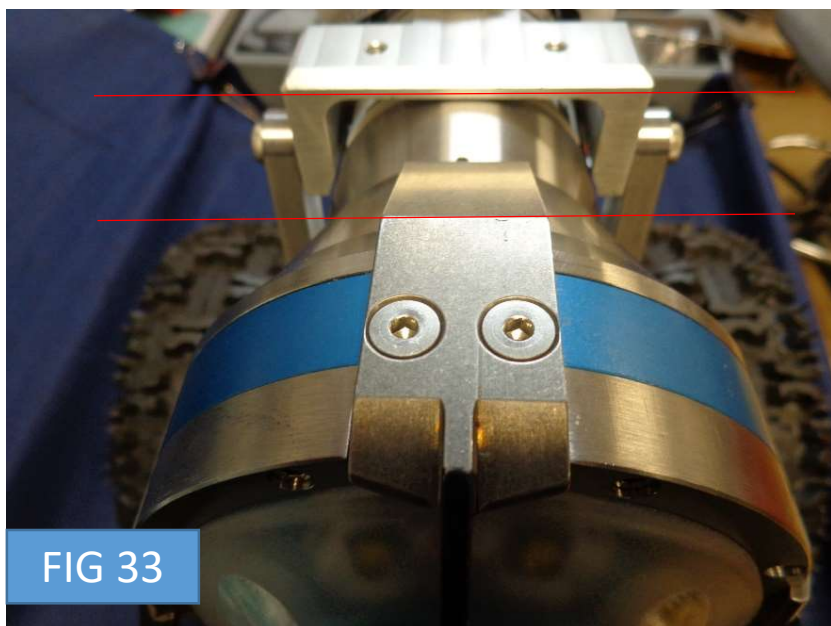


FIG 32

STEP 8

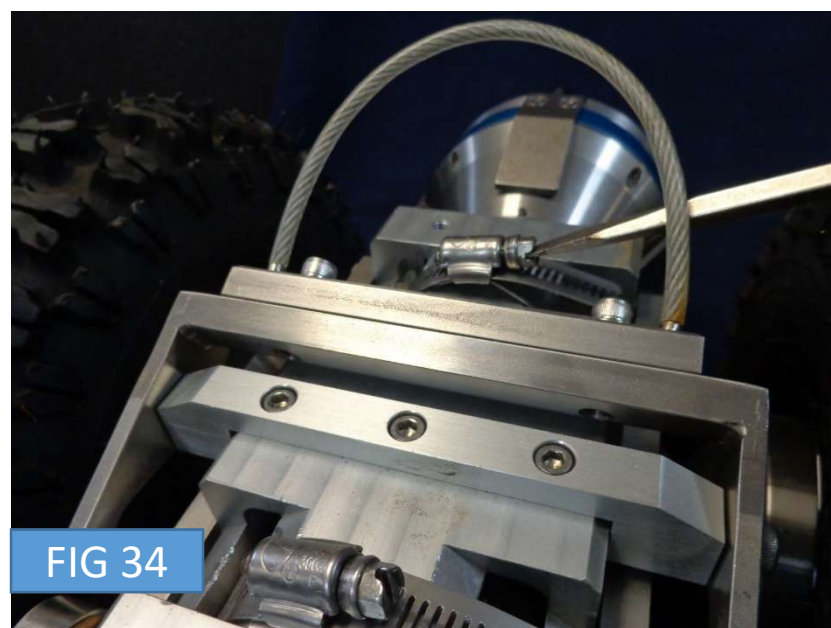
BRING THE LIFT TO THE DOWN POSITION. SLIDE THE CAMERA ALL THE WAY BACK UNTIL THE STOP BAR ENGAGES WITH THE BACK POCKET. SEE FIGURE 32.

Section 5 – Installing the HD380 Camera into the lift when used in a legacy 12 pin system



STEP 9

ROTATE THE CAMERA UNTIL THE TOP FORK IS PARALLEL WITH THE POWER LIFT CRADLE. SEE FIGURE 23.



STEP 10

TIGHTEN THE TWO HOSE CLAMPS ON THE LIFT CRADLE. SEE FIGURE 24.

Section 5 – Installing the HD380 Camera into the lift when used in a legacy 12 pin system

STEP 11

CONNECT THE STRAIGHT BLUE PLUG TO THE HD380 CAMERA MAKING SURE THE CONNECTOR IS SEATED ALL THE WAY. SEE FIGURE 35.



FIG 35

STEP 12

PROCEDURE COMPLETE. SEE FIGURE 36.

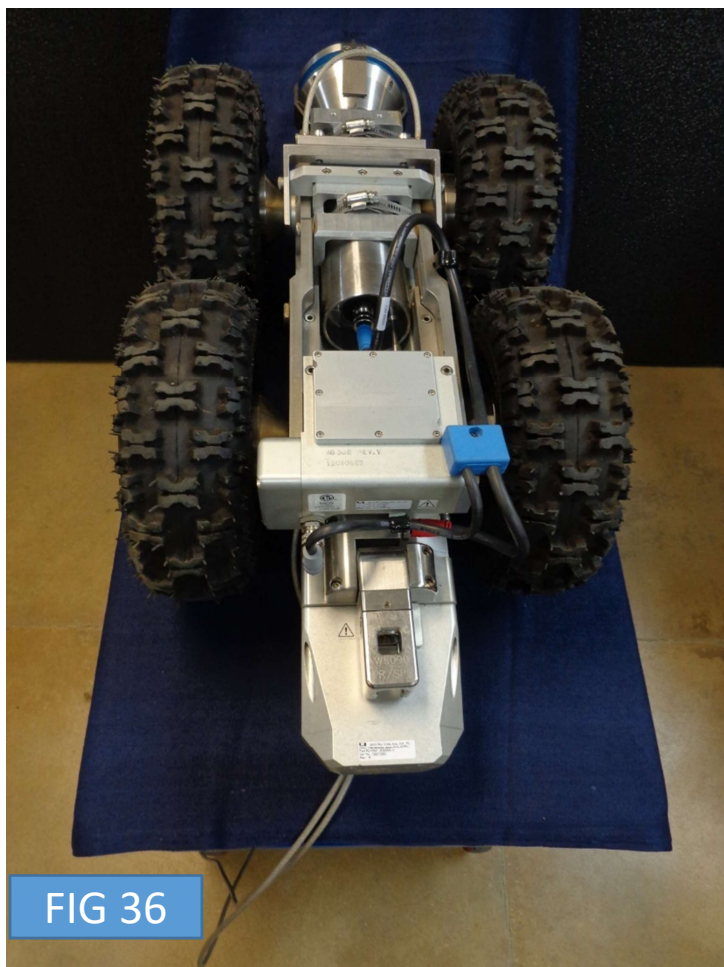


FIG 36