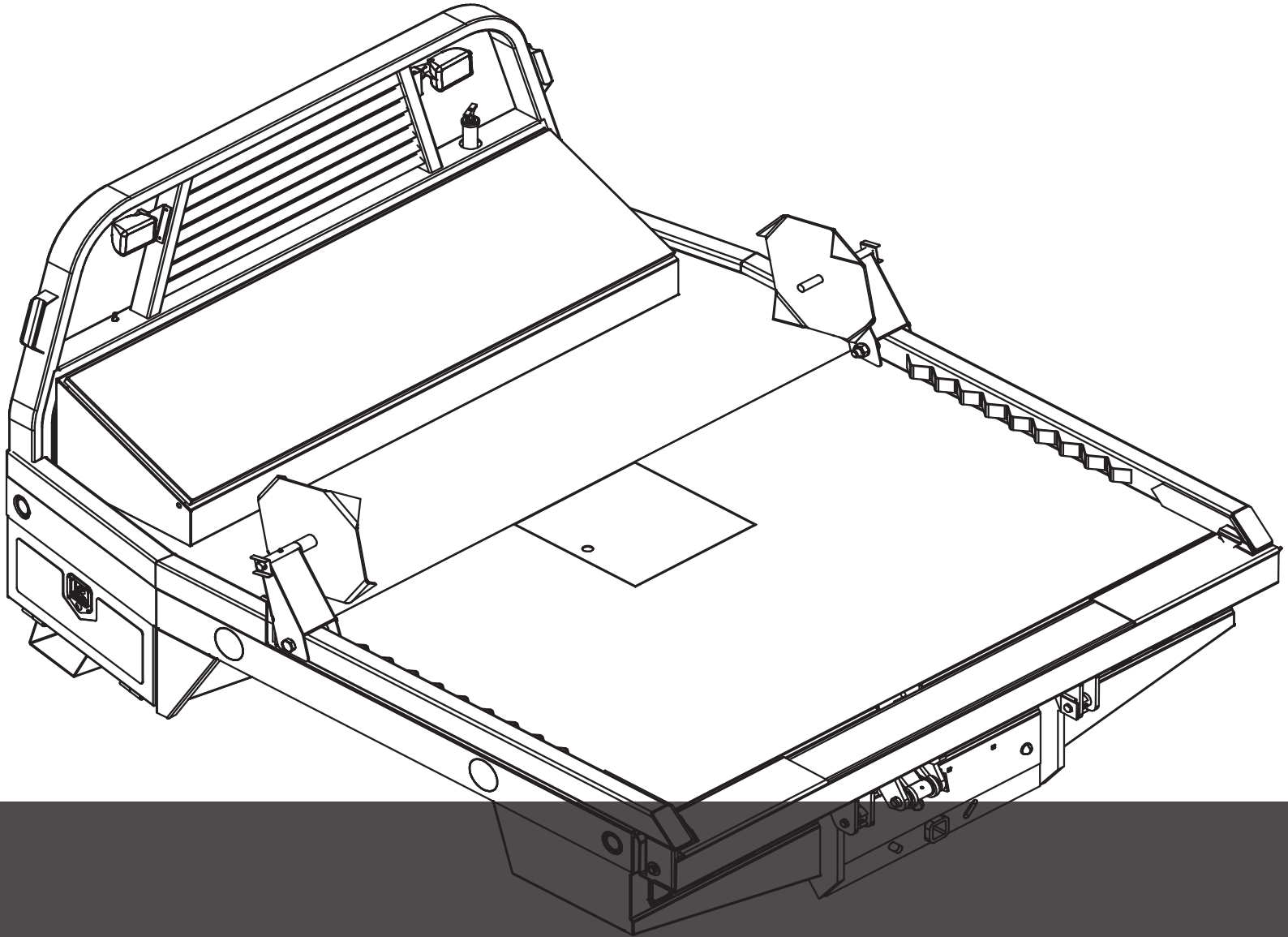


400/500 SERIES



DewEze®

Thank you for purchasing a DewEze Flatbed.

TO THE OWNER OR OPERATOR:

As with all Harper products, the 400 and 500 Series Flatbeds have been thoroughly tested and built to provide a sturdy, dependable product. The Flatbed is equipped with live hydraulics, which allows it to be used for a wide range of lifting and hauling tasks. This manual is written as an aid to operating and maintaining the DewEze Flatbed. Read and understand the manual thoroughly before operation to avoid damage to the unit or injury to the operator or bystanders.

A Flatbed can present hazards to an operator who follows unsafe procedures in either the operation or maintenance of the unit. Therefore, **SAFETY WARNINGS** are present at certain locations in the text. Harper Industries is not responsible for accidents or injuries that result from the misuse or lack of maintenance of the Flatbed.

SYMBOL:



SAFETY WARNING!



MEANING: Failure to understand and obey this warning may result in injury to you or others. Whenever this symbol is used, please pay very close attention to the information presented, and make sure you fully understand. If you do not, contact your dealer or Harper Industries for clarification.

///HARPER INDUSTRIES, INC.

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(620) 896-7381 • **Fax** (620) 896-7129

Toll Free 800-835-1042

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Website www.deweze.com

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Statement of Warranty

Harper Industries warrants to each purchaser of a new DewEze Flatbed from an authorized dealer or representative, that such equipment is free of manufacturer's defects which appear while in normal service for a period of TWO YEARS commencing with deliver to the original user. The Flatbed hydraulic and electrical systems are warranted for a period of one year.

The obligation of Harper Industries under this warranty is expressly limited, at our option, to replacement or repair at a service facility designated by Harper Industries or at the manufacturing plant in Harper, Ks. A part will be replaced after inspection discloses it to have been defective. This warranty does not apply to defects caused by damage or unreasonable use (including failure to provide reasonable and necessary maintenance, or by performing functions without genuine DewEze accessories) while in the possession of the consumer.

Harper Industries shall not be liable for the consequential damages of any kind, including but not limited to consequential labor costs or transportation charges in connection with replacement or repair of defective parts.

Harper Industries makes no warranty with respect to trade accessories. They are subject to the warranties of their respective manufacturers.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. Harper Industries makes no other express warranty, nor is anyone authorized to make any on behalf of Harper Industries.

For further information please contact your nearest DewEze dealer.

RECORDS

Date of Purchase _____ / _____ / _____

Dealer's Name _____

Dealer's Phone _____

Serial Number Machine _____

Serial Number Engine _____

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Specifications

DewEze flatbeds are specifically designed to transport and feed round hay bales.

MODEL IDENTIFICATION

MODEL	470	470W	475	477	478	480	482	485	487	578	582	587
WIDTH	7'	7' 8"	7'	7'	7' 8"	7' 8"	7' 8"	7' 8"	7' 8"	8'	8'	8'
LENGTH	7'	7'	8' 6"	9' 4"	8' 6"	9' 2"	9' 4"	10' 6"	11' 6"	8' 6"	9' 4"	11' 6"
WEIGHT	1830	1860	1880	2000	1960	2020	2040	2220	2260	2060	2180	2400

*Add 100 lbs. for extendible arm option.

FLATBED SPECIFICATIONS

HYDRAULIC SYSTEM	Powered by engine driven pump or self-contained battery-powered electric/hydraulic unit
SYSTEM PRESSURE	2450 psi
OIL RESERVOIR CAPACITY	10 Gallons
OIL FILTER	DewEze 720043, WIX 51551 (10 micron)
CYLINDER, LIFT	4.50" x 16.64"
CYLINDER, SQUEEZE	2.00" x 34.00" (400 Series) 2.00" x 39.25" (500 Series & all XRM)
CYLINDER, EXTENDIBLE*	2.00" x 20.0" (left side)
CYLINDER, EXTENDIBLE*	2.50" x 20.0" (right side)

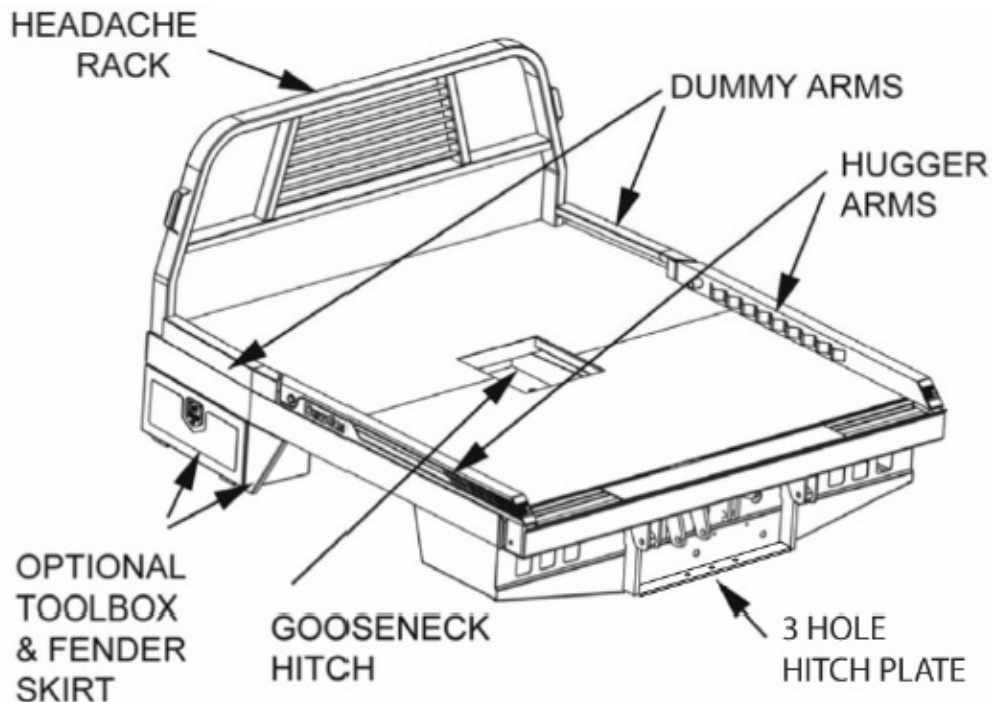
*Cylinders used for extendible arm are optional.

BOLT TORQUE SPECIFICATIONS (UNLESS SPECIFIED ELSEWHERE)

BOLT DIAMETER	BOLT TORQUE (ft-lb)
5/16"	19
3/8"	33
5/8"	160
1"	630

Note:
Specifications are for No. 5 bolts with no lubricant.

Feature Identification



Dummy Arms - serve as side rails, along with the hugger arms, for the flatbed.

Hugger Arms - squeeze together to grip the bale and lift it onto the flatbed. When the arms are stored they serve as side rails for the flatbed.

Headache Rack - protects the rear pickup window. The hydraulic fluid tank and the valve are also located in the bottom, left side of the headache rack.

Gooseneck Hitch - is located under a door in the middle of the bed.

Hitch Plate - has three holes for towing.

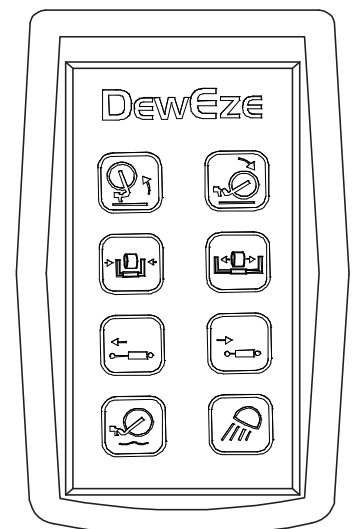


Do not exceed chassis manufacturer's recommended towing capacity.

Optional Toolbox & Fender Skirt - mount under the bed on both sides. The Electric/Hydraulic power unit mounts inside of the toolbox on the left.

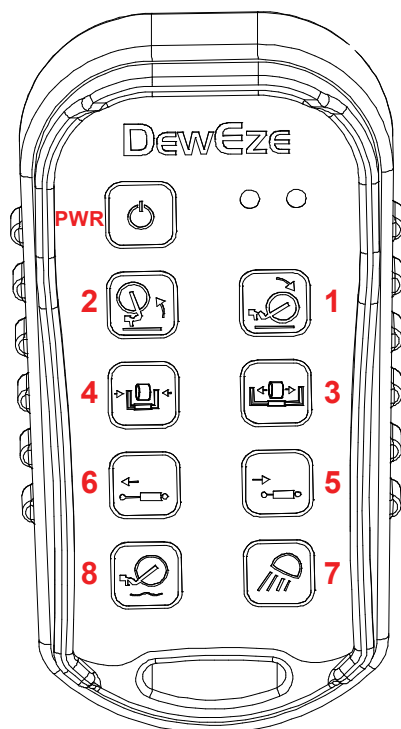
Remote Hand Control - The original Digitec remote system is obsolete. Options are available to upgrade to a Kar-Tech system or use a corded remote.

To upgrade from Digitec to Kar-Tech use **PN: 235018**

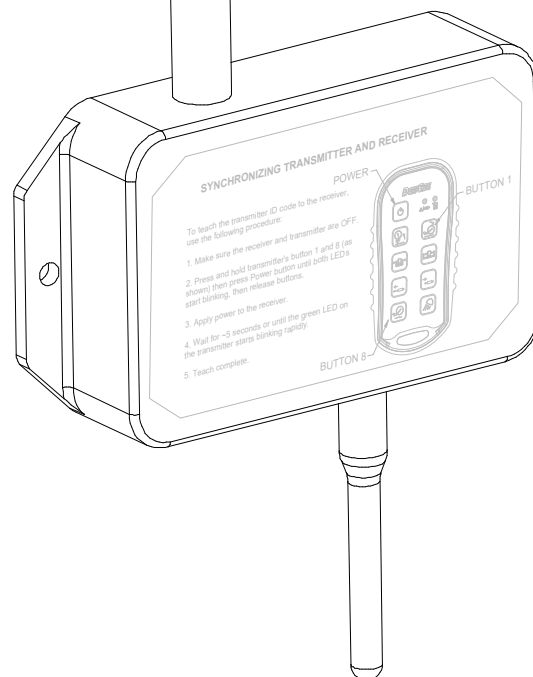


KAR-TECH WIRELESS: DEWEZE AG

RED REMOTE "DEWEZE" LOGO



TRANSMITTER



RECEIVER

* TWO VERSIONS OF THESE RECEIVERS EXIST!!

NEW = DECAL ON RECEIVER

OLD = NO DECAL, ALL BLACK RECEIVER

NEW PAIRING

1. NO POWER - Receiver or Transmitter
2. HOLD 1 & 8 then PWR - RED & GREEN should blink.
3. POWER RECEIVER *immediately* (only 8 seconds or may time out)
4. GREEN LIGHT on transmitter should blink. MAY TAKE A FEW TRIES.
5. Test functions.

OLD PAIRING

1. OPEN RECEIVER with POWER APPLIED.
2. JUMPER the two pins until GREEN light IN RECEIVER stays lit. (Fig 1)
3. HOLD 1 & 8 then PWR - GREEN light IN RECEIVER blinks.
4. Test functions

ITEM	QTY	PART #	DESCRIPTION
1	1	233003	KAR-TECH REMOTE KIT
2	1	233004	TRANSMITTER
3	1	232085	RECEIVER
4	1	235018	KAR-TECH UPGRADE FROM DIGITEC



With power applied, jumper these two pins until the green light is lit solid then release the jumper.

A small, black jumper box is provided. If it is missing, use a screwdriver or coin; anything conductive will work.

Figure 1

Safety Guidelines

Equipment Safety

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. Many accidents can be avoided by observing the precautions in this section. To avoid personal injury, study the precautions listed in this manual and follow them.

- Do no attempt to operate this equipment under the influence of drugs or alcohol.
- Review the safety instructions with all users annually.
- This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operation.
- Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.

If you have any questions not answered in this manual or require additional copies, please contact your dealer or DewEze manufacturing.

General Flatbed Safety



SAFETY WARNING!



Do not stand under the hugger arms when operating the bale pickup unit, even when arms are empty.

- Replace any CAUTION, WARNING, DANGER or instructional decal that is not readable or is missing.
- Make sure all safety pins are in place and flatbed mounting bolts are secure to the truck frame.
- Make sure hinges, joints, and sliding parts are well greased, especially during off season to prevent rusting and binding.
- Check with truck dealer for any load limits, additional suspension or tire requirements. The flatbed's carrying capability may exceed the truck's GVRW, especially on a 3/4 ton truck.

Hydraulic Safety



SAFETY WARNING!



Hydraulic system operates under high pressure and escaping fluid can penetrate the skin.

- Do no operate hydraulic system with hood open.
- Do not activate electric clutch unless truck engine is at idle. Switching the clutch on at road speeds can seriously damage your hydraulic system.

Operating Instructions

Beginning Operation

- Turn pump switch to the “on” position while engine is idling. (Red light will indicate that pump is on).

IMPORTANT: In cold weather, allow the engine to idle for 5-10 minutes with the pump on before operating the arms. This will allow the oil to warm up and flow more freely. Neglecting to do this may cause hydraulic pump failure.

Loading

- Back truck against bale with arms wide apart and tilted slightly upward.
- Close the arms firmly against the bale.
- Lift the bale onto the truck.
- Release the bale and repeat the operation for the second bale.

IMPORTANT: When hauling one bale, make sure it is resting on the bed. When hauling two bales make sure the second bale is as far forward as it will go (Fig. 1). Carrying a bale behind the bed, as shown in Fig 2, places excessive stress on the cylinder, linkage, and pins.

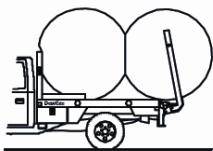


Fig. 1

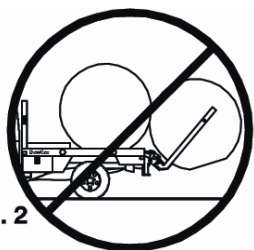


Fig. 2

NOTE: Spinners may be necessary to grip the front bale for unloading.

Unloading

- To unload, do the reverse of the loading operation.

Unrolling

NOTE: Risers and spinners must be installed to unroll bales.

- Position the arms over the bale so the spinner is at the center of the bale.
- Close the arms and pick up the bale.
- To unroll, lower the bale to the ground.
- Turn the pump off and push the FLOAT switch on the hand control.
- Drive forward slowly. Bale will gradually unroll.
- When finished, touch FLOAT or an other function to disengage.

CAUTION: Failure to engage FLOAT function while unrolling a bale may damage lift cylinder rod.

Storing the Arms

- Close arms partially and lay them on bed.
- Open arms until they are flush with sides of bed. They now function with the dummy arms as the bed's side rails.

Turning the System Off

- Turn the pump off and release pressure in the system by stroking one of the function switches when flatbed is not in use.

CAUTION: Operating truck at road speeds, or above 2,000 RPM, with pump engaged, may cause hydraulic pump failure.

Maintenance

Check Daily or Before Use

- Check hydraulic oil level. Keep level between “add” and “full” on dipstick.
- Check belt tension and idler pulleys on engine clutch pump system.
- Examine hydraulic hoses for cracks or leaks.

SAFETY WARNING!

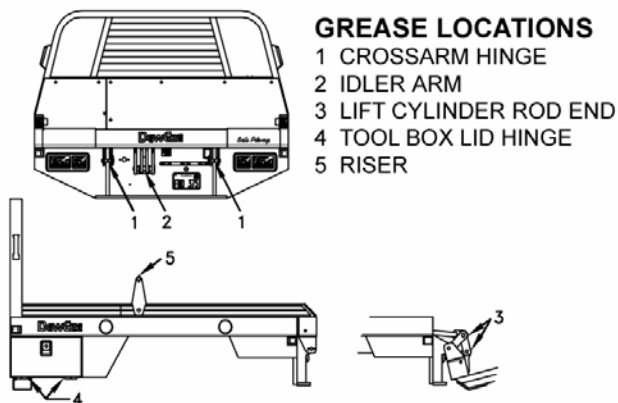
Do not check for hydraulic leaks with your hands while the system is operating. Use a piece of wood or cardboard. Hydraulic fluid escaping under pressure can penetrate the skin and may cause death if not treated immediately.

Grease

- Grease the locations indicated in the illustration below once per week.

Hydraulic Pressure

- Hydraulic system pressure should be 2450 psi.
- To check pressure, hook a test gauge to the quick-couplers.



Hydraulic Oil

- Change hydraulic oil when it is milky in appearance, or annually.
- Change hydraulic oil filter after the first 40 hours of use and then every 250 hours, or annually thereafter.
In Cold Weather (below 10° F)
- Fill with hydraulic oil specifically rated for cold weather.
- Do not attach other hydraulic equipment to the bed. The oil will intermix and the cold weather viscosity will be lost.

Other Maintenance Notes

- If the quick-couplers leak, the o-rings inside may need to be replaced.
- High heat, 190° or greater, can be damaging to the hydraulic system. Feel various parts of the system to make sure there are no “hot spots” which may indicate a problem.
- For easy hookup of the couplers, shut switch “off” and activate control valve switches with the ignition “on”. This will release the pressure in the lines.
- In the off season, run the bed at least twice a month to prevent valve condensation.

Troubleshooting

Problem	Symptom	Possible Solutions
Hydraulic Pump	No Oil Flow	- CHECK OIL LEVEL IN RESERVOIR. If oil level is low, check for leaks in system. - CHECK BELT TENSION. Tighten if needed. Replace belt if necessary. - CHECK FOR SHEARED KEY ON PUMP SHAFT. Replace key. - CLUTCH NOT FUNCTIONING. See clutch section. - INTERNAL PUMP DAMAGE. Have pump repaired or replaced. - CHECK PRESSURE LINE AT PUMP TO SEE IF OIL IS MOVING. - CHECK TO SEE IF SUCTION HOSE COLLAPSES IN SUCTION
Hydraulic Pump	No Oil Pressure	- VALVE NOT FUNCTIONING. Check for disconnected wires at solenoid. - CHECK FOR POSSIBLE LEAKS IN SYSTEM. Repair blown hoses. - CHECK FOR MALFUNCTIONING SWITCH. Replace broken switches. - PRESSURE RELIEF IS BROKEN ALLOWING OIL TO BYPASS SYSTEM. Replace pressure relief. - PRESSURE SEAL ON PUMP IS BROKEN OR WORN. Replace. - BELTS OR CLUTCH MAY BE SLIPPING. Tighten belts. - PRESSURE RELIEF MAY BE SET TOO LOW. CAUTION: PRESSURE EXCEEDING 2,600 PSI CAN DAMAGE THE PUMP.
Clutch	Does Not Engage	- CHECK FOR BLOWN FUSE. Replace. CAUTION: FUSE SHOULD NOT EXCEED 30 AMPS - CHECK WIRE TO CLUTCH. Insure there are no breaks or shorts. - CHECK FOR BAD SWITCHES IN SYSTEM. Replace. - CHECK FOR BAD MAGNETIC COIL. Use jumper from positive battery terminal to check coil. Replace coil if necessary.
Belt(s)	Jumps Off Pulley	- BELTS TOO LOOSE. Tighten belts. - CHECK FOR EXCESSIVE BELT WEAR. Replace worn belts. - CHECK FOR LOOSE PUMP BRACKET. Tighten loose bolts. Replace broken bolts. - CHECK ALIGNMENT OF CLUTCH AND CRANKSHAFT PULLEYS. Re-align pulleys. - CHECK CRANKSHAFT PULLEY FOR LOOSE OR BROKEN BOLTS. Tighten loose bolts. Replace broken bolts. - CHECK ALIGNMENT OF IDLER PULLEY AND THE CONDITION OF IDLER PULLEY BEARINGS. Re-align idler pulley. Replace worn or broken bearings. - MAKE SURE THAT BELTS ARE NOT CRACKED OR WORN.

DewEze®

400/500 SERIES

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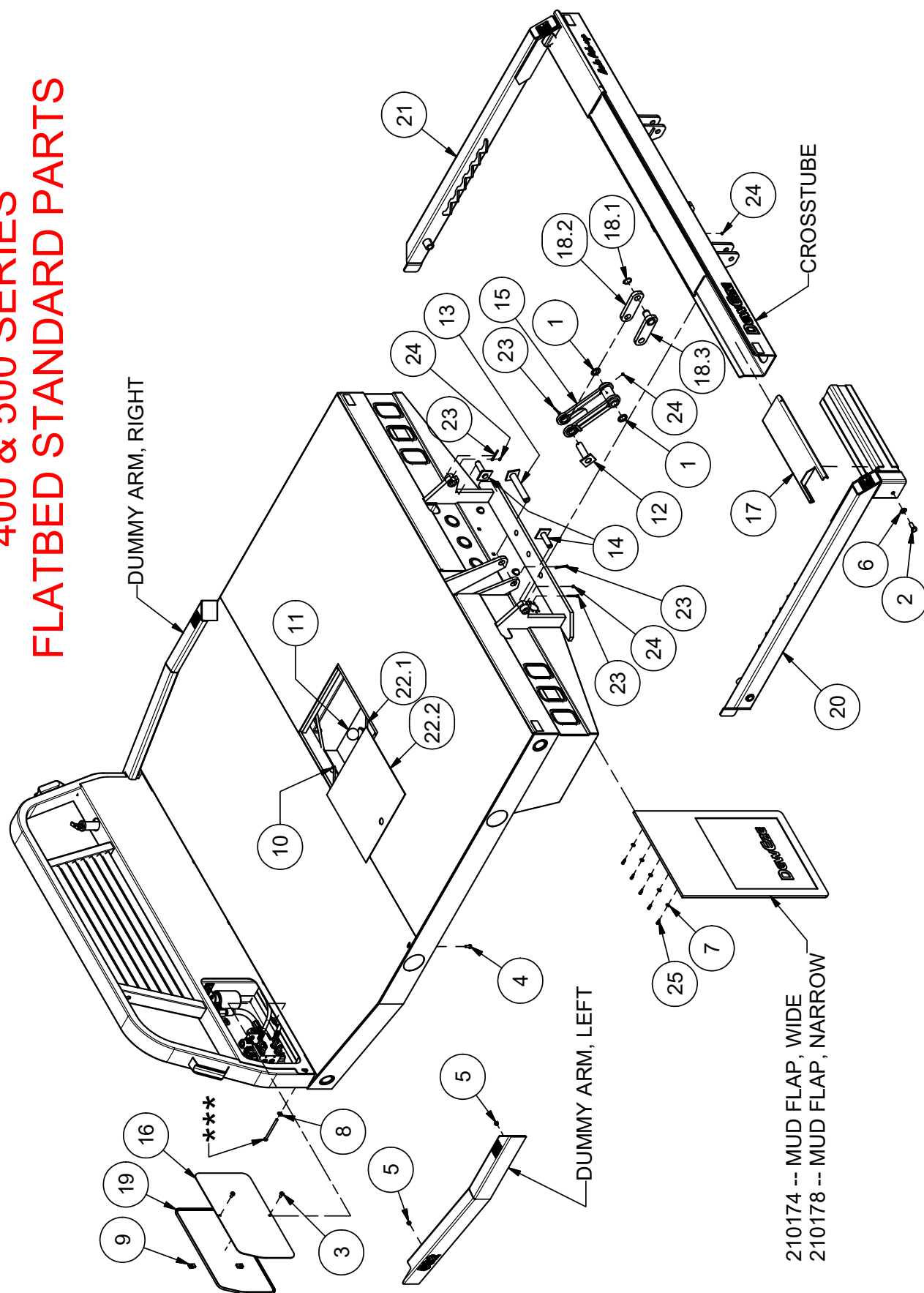
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400 & 500 SERIES FLATBED STANDARD PARTS



400 & 500 SERIES FLATBED STANDARD PARTS

STANDARD	CROSSTUBE	DUMMY ARM	
		LEFT	RIGHT
470	211311	211897	211898
470W	211310	211921	211922
475	211311	211903	211904
477	211311	211909	211910
479	211311	211915	211916
480	211310	211321	211320
482	211310	211923	211924
484	211310	211929	211930
487	211310	211935	211936
488	211310	211941	211942
578	215026	211947	211948
582	215026	211953	211954
587	215026	211959	211960

Parts List			
ITEM	PART #	QUANTITY	DESCRIPTION
1	110336	2	WASHER, 1-1/4" FLAT MACHINE 10GA
2	110365	2	BOLT, 5/8-18 X 1.5 GR 5
3	110437	2	BOLT, 3/8-16 X 0.75, WIZ FLANGE
4	110440	2	BOLT, 3/8-16 X 1, WIZ FLANGE
5	110645	2	NUT, 3/8-16 WIZ FLANGE
6	110663	2	WASHER, 5/8" FLAT SAE
7	110673	10	WASHER, 1/4" FLAT STANDARD
8	110676	2	WASHER, 3/8" FLAT STANDARD
9	110804	2	NUT, 3/8-16 U-TYPE .75L
10	200191	2	BUSHING, .5 X .375 X .500 W/FLNG
11	210459	1	HITCH BALL AND NUT
12	210753	1	PIN ASSY, LIFT CYLINDER ROD END
13	210755	1	PIN ASSY, IDLER ARM
14	210757	2	PIN ASSY, CROSSARM PIVOT
15	210935	1	IDLER ARM, MACHINE DWG.
16	211202	1	VALVE COVER
17	211292	2	SHIELD, CROSSARM
18	211297	---	PUSH ARM KIT
18.1	140015	1	SNAP RING
18.2	211282	1	PUSH ARM
18.3	211298	1	PUSH ARM WELDMENT
19	211481	1	EDGE TRIM, VALVE COVER
20	211965	1	SQUEEZE ARM LEFT, GRAY
21	211966	1	SQUEEZE ARM RIGHT, GRAY
22	215069	--	LID ASSEMBLY
22.1	210892	1	HINGE ROD, LID RECESSED WELL
22.2	210919	1	LID, RECESSED WELL
23	310325	4	COTTER PIN, 1/4 X 2
24	510174	4	GREASE ZERK, 1/4-28 ST
25	710586	10	SCREW, 1/4 X 1 TEK SELF-TAP

*** 400 SERIES

2ea 110533 -- BOLT, 3/8-16 X 5.0

500 SERIES

2ea 110542 -- BOLT, 3/8-16 X 5.5

HYDRAULIC ASSEMBLY LIFT & SQUEEZE

Parts List

ITEM	PART #	QTY	DESCRIPTION
1	110352	1	BOLT, 1-8 X 10, GR8
2	110602	1	NUT, 1-8 LOCK NYLON INSERT
3	120145	1	ADAPTER, 6MB-6MP (3/8 X 4)
4	120146	1	ADAPTER, 8MP-6FP90
5	120147	1	ADAPTER, 6MB-8MP90
6	220084	2	COUPLER, PIONEER FEMALE
7	220452	1	LIFT CYLINDER
8	200129	1	BUSHING, 1.5 X 1.25 X 1.0 SPLIT GG/GH
9	510174	1	GREASE ZERK, 1/4-28 ST
10	222001	1	VALVE, CHECK W/ .063 ORIFICE
11	420005	2	COUPLER, PIONEER MALE

SQUEEZE CYLINDER

400 SERIES 220002

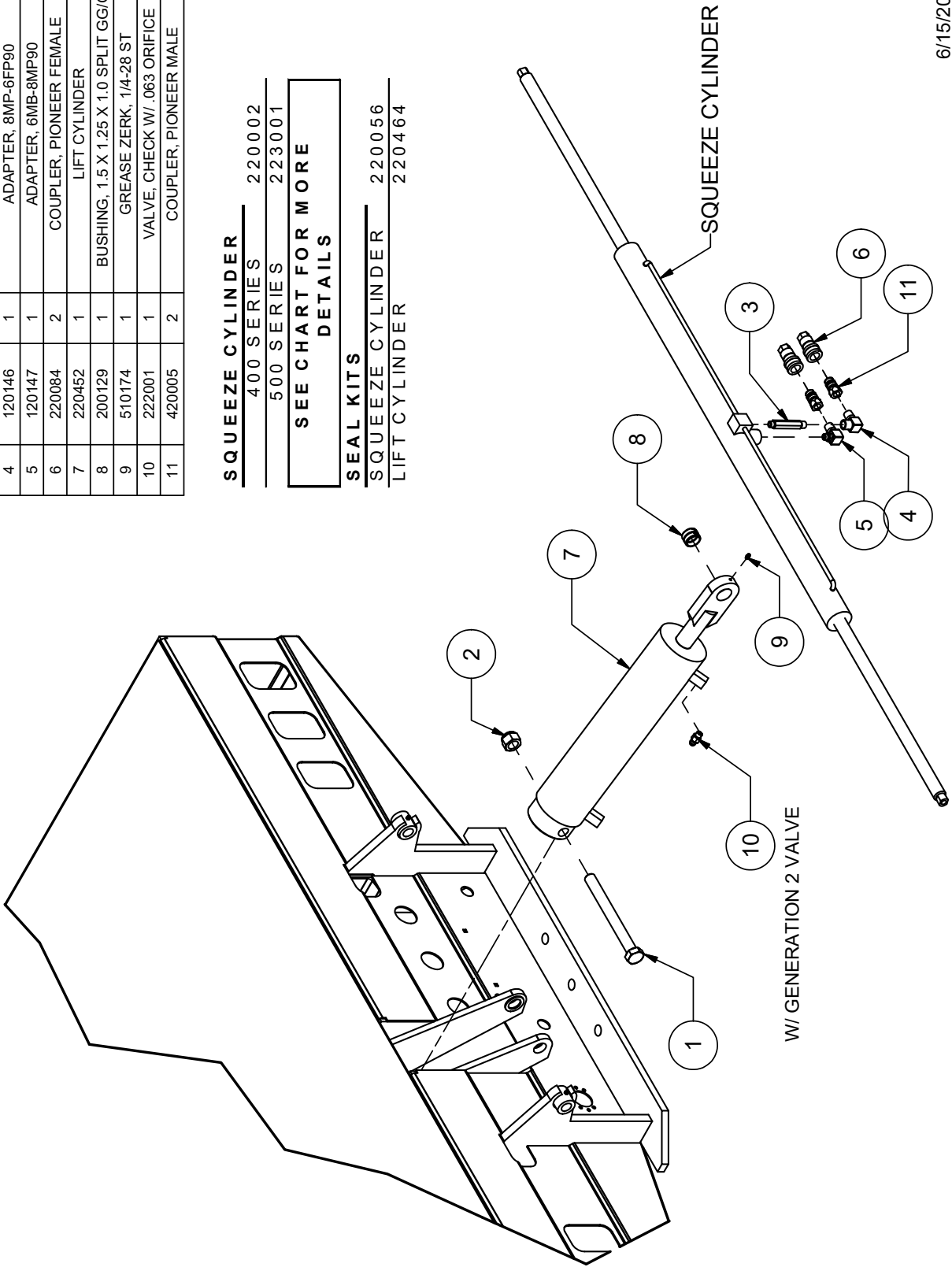
500 SERIES 223001

SEE CHART FOR MORE
DETAILS

SEAL KITS

SQUEEZE CYLINDER 220056

LIFT CYLINDER 220464

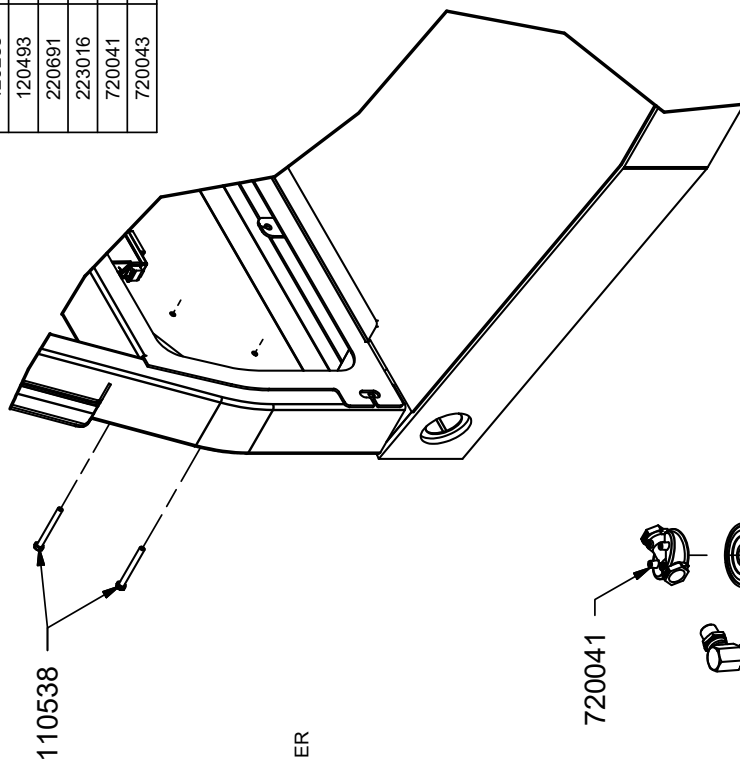
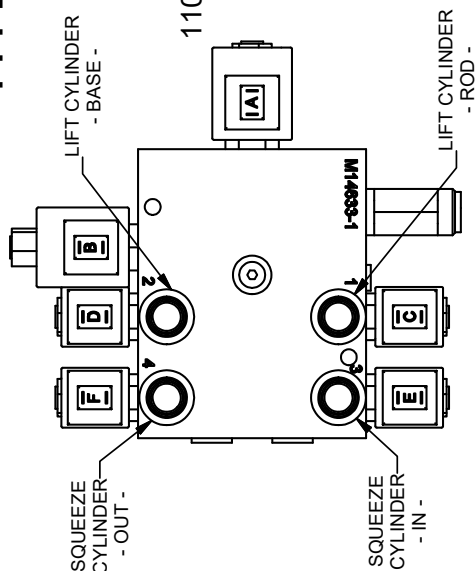


Flatbed Squeeze Cylinders					
Bed Width	Model #		Squeeze Cylinder	Model #	
85.375"	670		220002	470	
	675			475	
	677			477	
	679			479	
91.375"			220002	482	XRM
				482	
				484	
				484	
				487	
				487	
				488	
93.0"	682	XRM	223032		
	682				
	684				
	684				
	687				
	687				
	688				
96.5"	688	XRM	223001		
	770				
	770				
	778				
	778				
	782				
	782				
	784				
	784				
	787				
	787				
	788				
	788				
85.375	670	XRM	223001	470	XRM
	675			475	
	677			477	
	679			479	
A Synchronized Squeeze Cylinder Part # 223026 is available as an option for all beds. This cylinder is the same length as # 223001. Squeeze Cylinder Seal Kit Part # 220056					

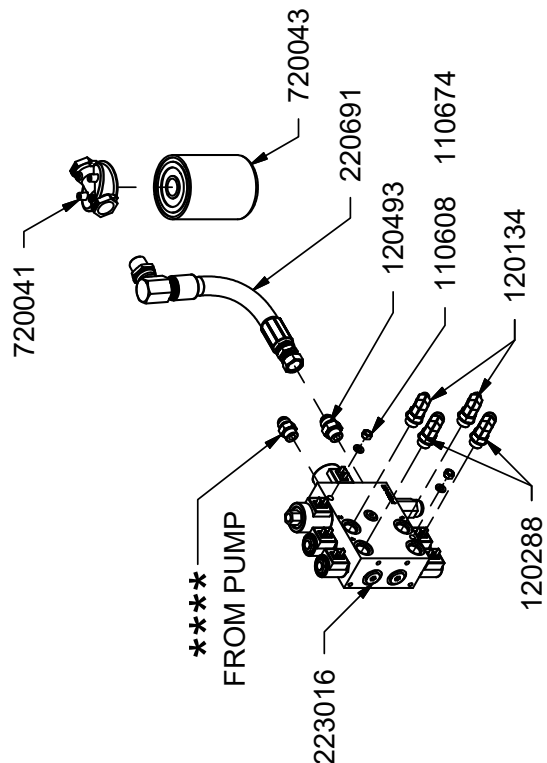
HYDRAULIC ASSEMBLY VALVE & FILTER RETURN HOSE CHANGED 2009

Parts List

PART #	QTY	DESCRIPTION
110538	2	BOLT, 5/16-18 X 3.0
110608	2	NUT, 5/16-18
110674	2	WASHER, 5/16" LOCK
120134	2	ADAPTER, 6MJ-8MB90
120288	2	ADAPTER, 8MJ-8MB90
120493	1	ADAPTER, 10MJ-8MB
220691	1	RESERVOIR RETURN
223016	1	VALVE, FLATBED MONOBLOCK
720041	1	FILTER HEAD
720043	1	FILTER, 10 MICRON



5, 7& 9 GALLON SYSTEM
120277 -- ADAPTER 8MJ-8MB
12 & 17 GALLON SYSTEM
120174 -- ADAPTER, 8MB-12FPX

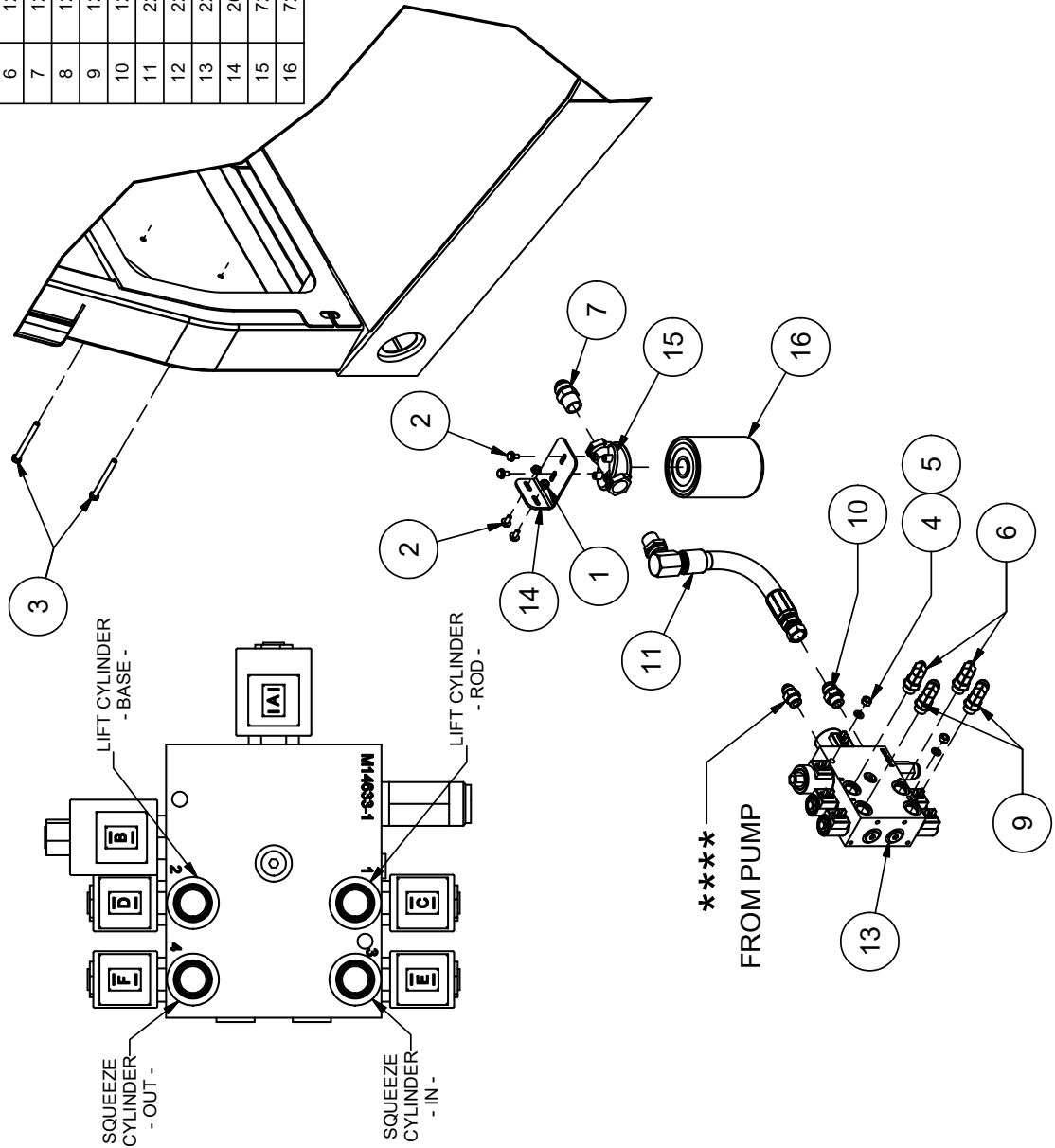


FROM PUMP

HYDRAULIC ASSEMBLY

VALVE & FILTER

RETURN HOSE CHANGED 2009
FILTER BRACKET LATE 2012



Parts List

ITEM	PART #	QTY	DESCRIPTION
1	110290	2	NUT, 1/4-20 WIZ FLANGE
2	110434	4	BOLT, 1/4-20 X 0.5, WIZ FLANGE
3	110538	2	BOLT, 5/16-18 X 3.0
4	110608	2	NUT, 5/16-18
5	110674	2	WASHER, 5/16" LOCK
6	120134	2	ADAPTER, 6MJ-8MB90
7	120244	1	ADAPTER, 12MJ-12MP
8	120257	1	ADAPTER, 12MJ-12MB90
9	120288	2	ADAPTER, 8MJ-8MB90
10	120493	1	ADAPTER, 10MJ-8MB
11	220691	1	RESERVOIR RETURN
12	220700	1	FILTER TO RESERVOIR HOSE
13	223016	1	VALVE, FLATBED MONOBLOCK
14	260265	1	MOUNTING BRACKET, FILTER
15	720041	1	FILTER HEAD
16	720043	1	FILTER, 10 MICRON

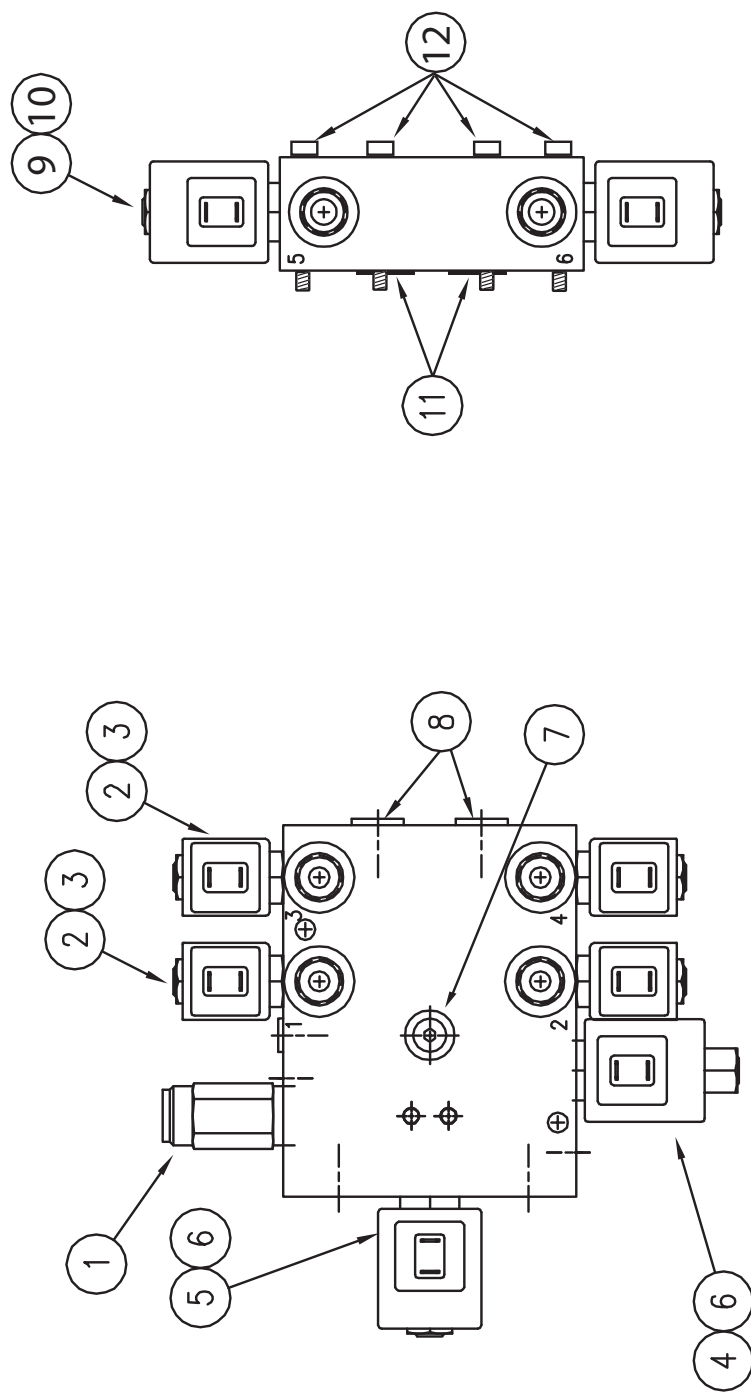
5, 7 & 9 GALLON SYSTEM

120277 -- ADAPTER 8MJ-8MB

12 & 17 GALLON SYSTEM

120174 -- ADAPTER, 8MB-12FPX

GEN 2 VALVE - SERVICE PARTS



ITEM NO	DESCRIPTION	PART NO.	QUAN
1	VALVE, PRESSURE RELIEF	222004	1
2	CARTRIDGE, #8 VALVE, W/O COIL	720015	4
3	COIL, #8 VALVE, 12 VOLT	820143	4
4	SPOOL, #10 VALVE	820232	1
5	VALVE, DIRECTIONAL, 4-WAY	222002	1
6	COIL, #10 VALVE, 12 VOLT	820229	2
7	O-RING, ADAPTER #4 7/16-20	120062	2
8	O-RING, ADAPTER #8 3/4-16	720164	2
	VALVE, MONOBLOCK, COMPLETE	223016	1

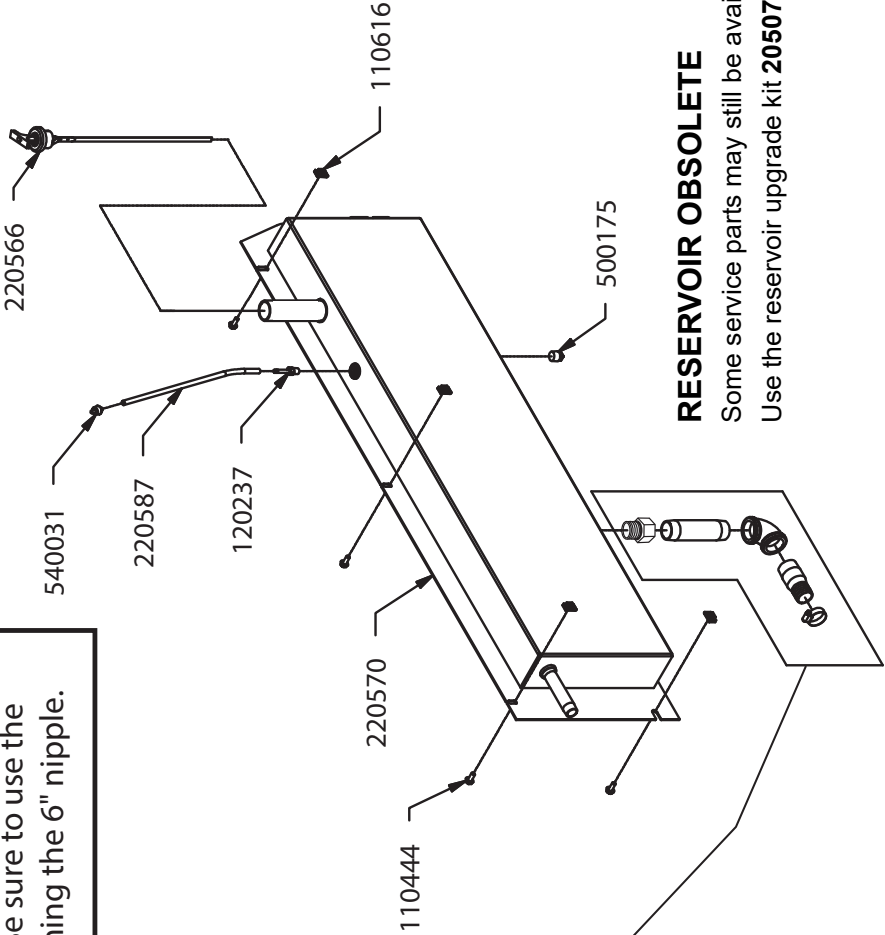
VALVE FOR ADDITIONAL THIRD BANK

ITEM NO	DESCRIPTION	PART NO.	QUAN
9	VALVE, POPPET FOR 223017	222003	2
10	COIL, #10 VALVE, 12 VOLT	820229	2
11	O-RING, -219, 90 DURO	120376	2
12	BOLT, 5/16-18 X 2 SHCS	110168	4
	VALVE, 3RD BANK ADD ON (223016)	223017	1

HYDRAULIC ASSEMBLY RESERVOIR (BEFORE 2010)

IMPORTANT:
The hydraulic reservoir has an O-ring fitting in the bottom where the suction line is connected. Be sure to use the correct adapter (120015) before attaching the 6" nipple.

5, 7 & 9 GALLON SYSTEM	
PART #	QTY
120015	1
200083	1
220107	1
720075	1
720107	1
12 & 17 GALLON SYSTEM	
PART #	QTY
120015	1
200083	1
720158	1
220217	1
511002	1
2003 DODGE DUALY, 5, 7 & 9	
PART #	QTY
120015	1
720070	1
720075	1
720107	1
2003 DODGE DUALY, 12 & 17	
PART #	QTY
120015	1
220217	1
511002	1



RESERVOIR OBSOLETE
Some service parts may still be available.
Use the reservoir upgrade kit **205075** for replacement.

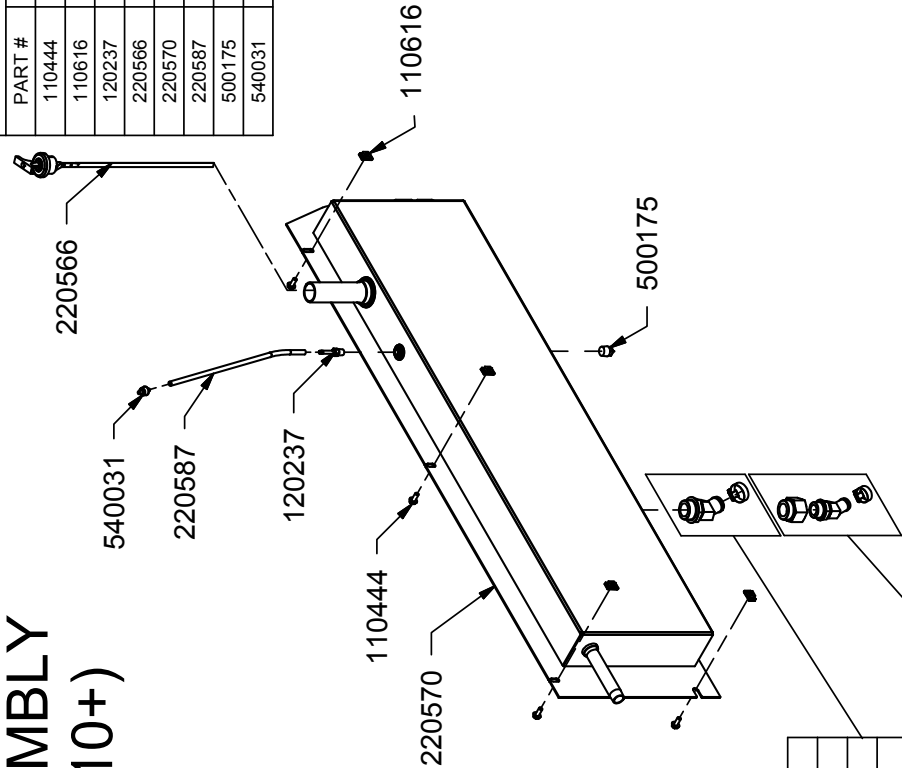
RUNNING CHANGE
The above fittings were phased out of usage at the beginning of the 2010 model year.
See following page for new fittings.

Parts List		
PART #	QUANTITY	DESCRIPTION
110444	4	BOLT, 5/16-18 X 0.75, WIZ FLANGE
110616	4	NUT, 5/16", J-TYPE, CAGE, .5C
120237	1	ADAPTER, 4BH-4MP
220566	1	DIP STICK
220570	1	RESERVOIR WELDMENT
220587	1	VENT HOSE
500175	1	FITTING, PLUG 1/2" PIPE
540031	1	FUEL FILTER

HYDRAULIC ASSEMBLY RESERVOIR (2010+)

Parts List

PART #	QTY	DESCRIPTION
110444	4	BOLT, 5/16-18 X 0.75, WIZ FLANGE
110616	4	NUT, 5/16", J-TYPE, CAGE, .5C
120237	1	ADAPTER, 4BH-4MP
220566	1	DIP STICK
220570	1	RESERVOIR WELDMENT
220587	1	VENT HOSE
500175	1	FITTING, PLUG 1/2" PIPE
540031	1	FUEL FILTER



12 & 17 GALLON SYSTEM		
PART #	QTY	DESCRIPTION
120189	1	ADAPTER, 20MB-20BH 45°
511002	1	HOSE CLAMP, #24

5, 7 & 9 GALLON SYSTEM		
PART #	QTY	DESCRIPTION
120188	1	ADAPTER, 16MB-16BH 45°
120511	1	ADAPTER, 20MB-16FOR
720107	1	HOSE CLAMP, #20

RUNNING CHANGE

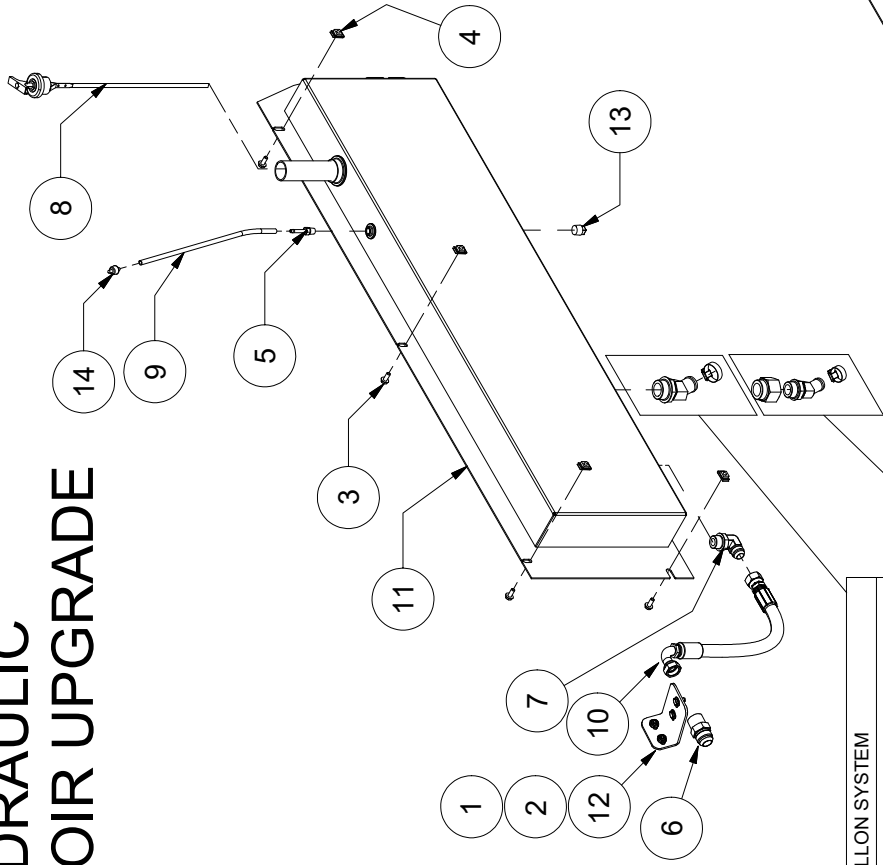
The above fittings were phased into usage at the beginning of the 2010 model year. See previous page for old fittings.

9/2024

RESERVOIR OBSOLETE

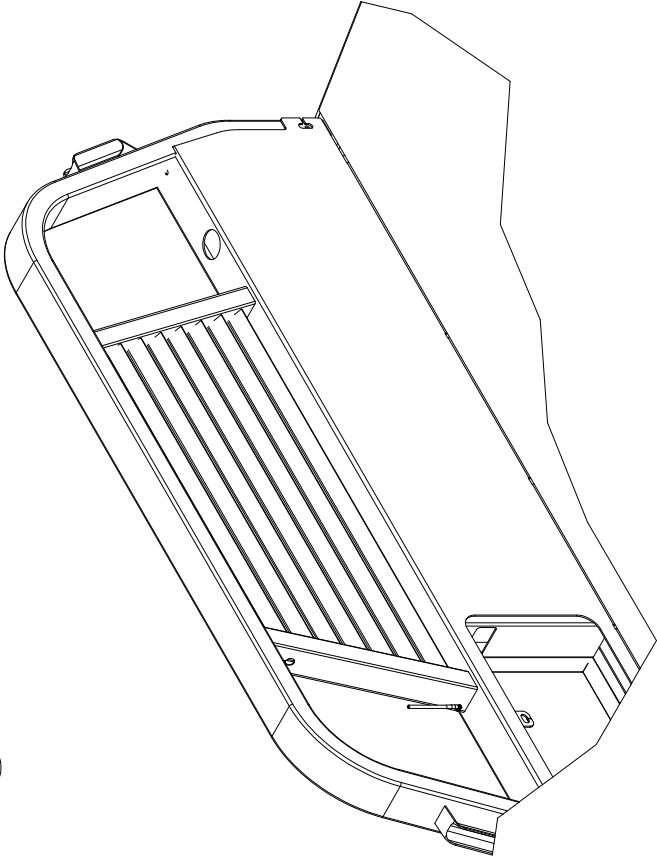
Some service parts may still be available.
Use the reservoir upgrade kit **205075** for replacement.

HYDRAULIC RESERVOIR UPGRADE



12 & 17 GALLON SYSTEM		
PART #	QTY	DESCRIPTION
120189	1	ADAPTER, 20MB-20BH 45°
511002	1	HOSE CLAMP, #24

5, 7 & 9 GALLON SYSTEM		
PART #	QTY	DESCRIPTION
120188	1	ADAPTER, 16MB-16BH 45°
120511	1	ADAPTER, 20MB-16FOR
720107	1	HOSE CLAMP, #20



Reservoir Upgrade Kit: 205075		
Item	Qty	Part #
1	2	110290
2	4	110434
6	2	120244
7	1	120257
10	1	220700
11	1	225012
12	1	260265

Separate Parts List		
Item	Qty	Part #
3	4	110444
4	4	110616
5	1	120237
8	1	220566
9	1	220587
13	1	500175
14	1	540031

HOSE CHART

400 & 500 SERIES WITH GENERATION 2 VALVES

FLATBED SERIES	SQUEEZE HOSES		LIFT HOSES		RESERVOIR RETURN		HYDRAULIC HOSE KIT #
	8M3K - 8MP / 8FJX IN (BLUE)	OUT (ORANGE)	6M3K - 6MB / 6FJX BASE (BROWN)	6M3K - 6FJX / 6FJX ROD (GREEN)	3/4 SUCTION		
470	220610 (129in)	220610 (129in)	220611 (65in)	220646 (84in)	220422 (26.75in)		223024
470W	220610 (129in)	220610 (129in)	220611 (65in)	220646 (84in)	220422 (26.75in)		223024
475	220613 (152in)	220613 (152in)	220614 (88in)	220642 (107in)	220422 (26.75in)		223018
478	220613 (152in)	220613 (152in)	220614 (88in)	220642 (107in)	220422 (26.75in)		223018
477	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	220422 (26.75in)		223019
480	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	220422 (26.75in)		223019
482	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	220422 (26.75in)		223019
485	220622 (182in)	220622 (182in)	220623 (118in)	220644 (137in)	220422 (26.75in)		223020
487	220622 (182in)	220622 (182in)	220623 (118in)	220644 (137in)	220422 (26.75in)		223020
578	220613 (152in)	220613 (152in)	220614 (88in)	220642 (107in)	220422 (26.75in)		223018
582	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	220422 (26.75in)		223019
587	220622 (182in)	220622 (182in)	220623 (118in)	220644 (137in)	220422 (26.75in)		223020

HOSE CHART

RETURN HOSE CHANGED 2009

400 & 500 SERIES WITH GENERATION 2 VALVES

FLATBED SERIES	SQUEEZE HOSES		LIFT HOSES		HYDRAULIC HOSE KIT #
	8M3K - 8MP / 8FJX IN (BLUE)	OUT (ORANGE)	6M3K - 6MB / 6FJX BASE (BROWN)	6M3K - 6FJX / 6FJX ROD (GREEN)	
470	220610 (129in)	220610 (129in)	220611 (65in)	220646 (84in)	223024
470W	220610 (129in)	220610 (129in)	220611 (65in)	220646 (84in)	223024
475	220613 (152in)	220613 (152in)	220614 (88in)	220642 (107in)	223018
478	220613 (152in)	220613 (152in)	220614 (88in)	220642 (107in)	223018
477	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	223019
480	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	223019
482	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	223019
485	220622 (182in)	220622 (182in)	220623 (118in)	220644 (137in)	223020
487	220622 (182in)	220622 (182in)	220623 (118in)	220644 (137in)	223020
578	220613 (152in)	220613 (152in)	220614 (88in)	220642 (107in)	223018
582	220616 (164in)	220616 (164in)	220617 (100in)	220643 (119in)	223019
587	220622 (182in)	220622 (182in)	220623 (118in)	220644 (137in)	223020

400 SERIES WITH LARGE AND SMALL FPS VALVES

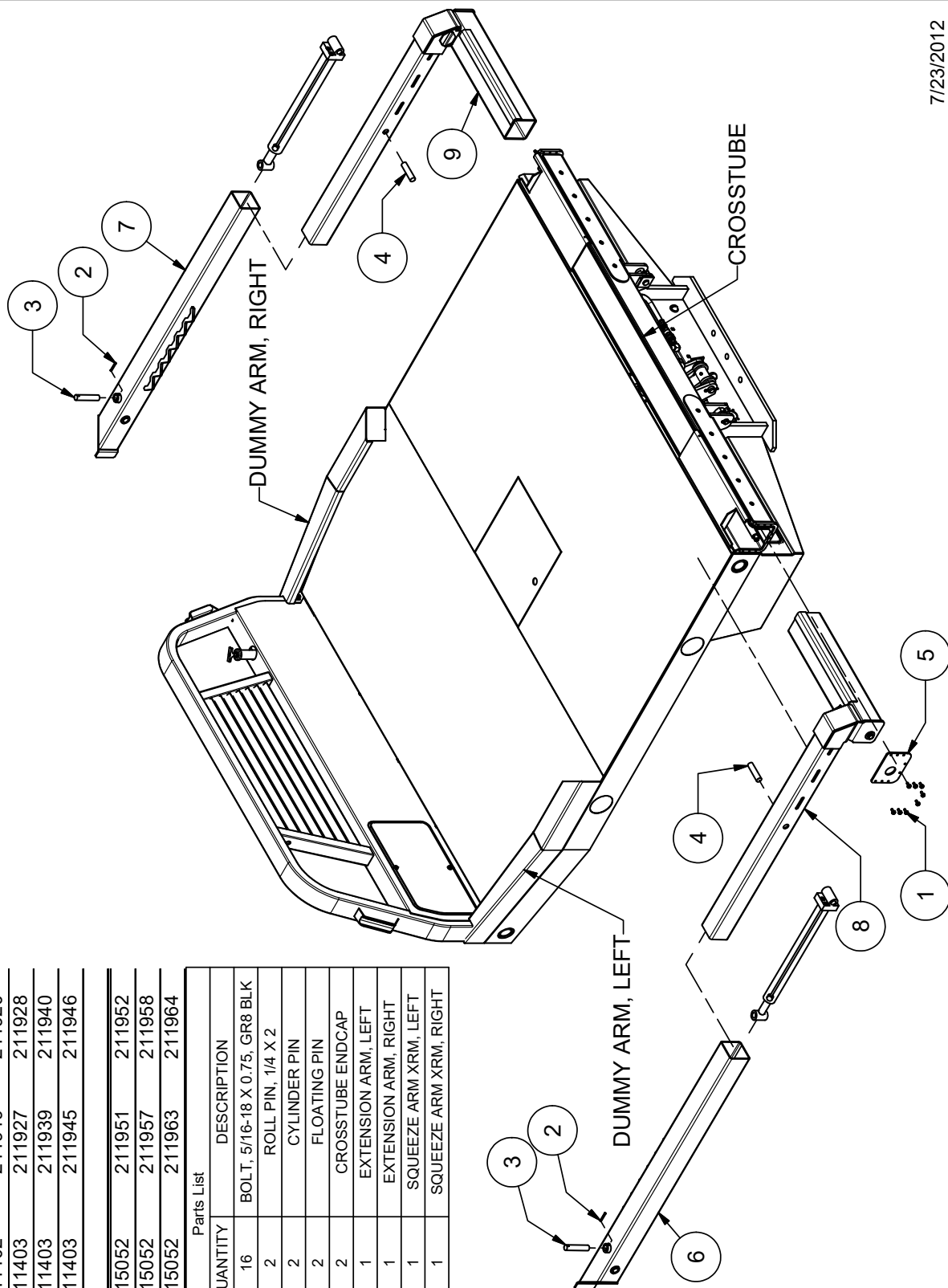
FLATBED SERIES	SQUEEZE HOSES		LIFT HOSES		RESERVOIR RETURN		HYDRAULIC HOSE KIT #
	IN (BLUE)	OUT (ORANGE)	BASE (BROWN)	6M3K - 6MB / 6FJX ROD (GREEN)	8M3K - 8MP / 8FJX		
470	220610 (129in)	220610 (129in)	220611 (65in)	220612 (84in)	220422 (26.75in)		223002
470W	220610 (129in)	220610 (129in)	220611 (65in)	220612 (84in)	220422 (26.75in)		223002
475	220613 (152in)	220613 (152in)	220614 (88in)	220615 (107in)	220422 (26.75in)		223003
478	220613 (152in)	220613 (152in)	220614 (88in)	220615 (107in)	220422 (26.75in)		223003
477	220616 (164in)	220616 (164in)	220617 (100in)	220618 (119in)	220422 (26.75in)		223004
480	220616 (164in)	220616 (164in)	220617 (100in)	220618 (119in)	220422 (26.75in)		223004
482	220616 (164in)	220616 (164in)	220617 (100in)	220618 (119in)	220422 (26.75in)		223004
485	220619 (176in)	220619 (176in)	220620 (112in)	220621 (131in)	220422 (26.75in)		223005
487	220622 (182in)	220622 (182in)	220623 (118in)	220624 (137in)	220422 (26.75in)		223006

400 & 500 SERIES FLATBED XRM PARTS

XRM	CROSSTUBE	DUMMY ARM	LEFT	RIGHT
470	211402	211901	211902	
475	211402	211907	211908	
477	211402	211913	211914	
479	211402	211919	211920	
482	211403	211927	211928	
487	211403	211939	211940	
488	211403	211945	211946	
578	215052	211951	211952	
582	215052	211957	211958	
587	215052	211963	211964	

Parts List

ITEM	PART #	QUANTITY	DESCRIPTION
1	110794	16	BOLT, 5/16-18 X 0.75, GR8 BLK
2	200150	2	ROLL PIN, 1/4 X 2
3	210941	2	CYLINDER PIN
4	210942	2	FLOATING PIN
5	211755	2	CROSSTUBE ENDCAP
6	211967	1	EXTENSION ARM, LEFT
7	211968	1	EXTENSION ARM, RIGHT
8	215085	1	SQUEEZE ARM XRM, LEFT
9	215086	1	SQUEEZE ARM XRM, RIGHT



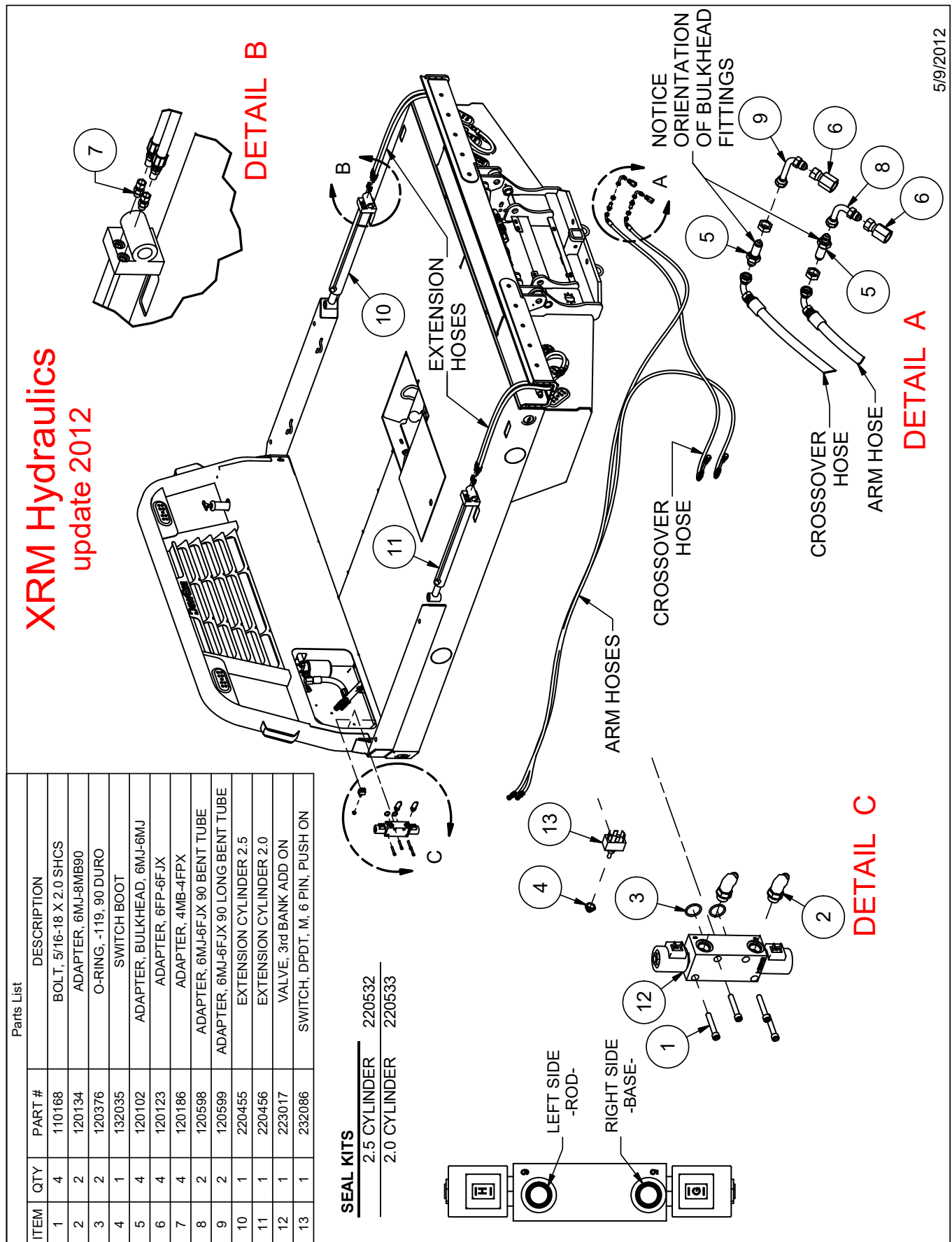
DewEze®

30

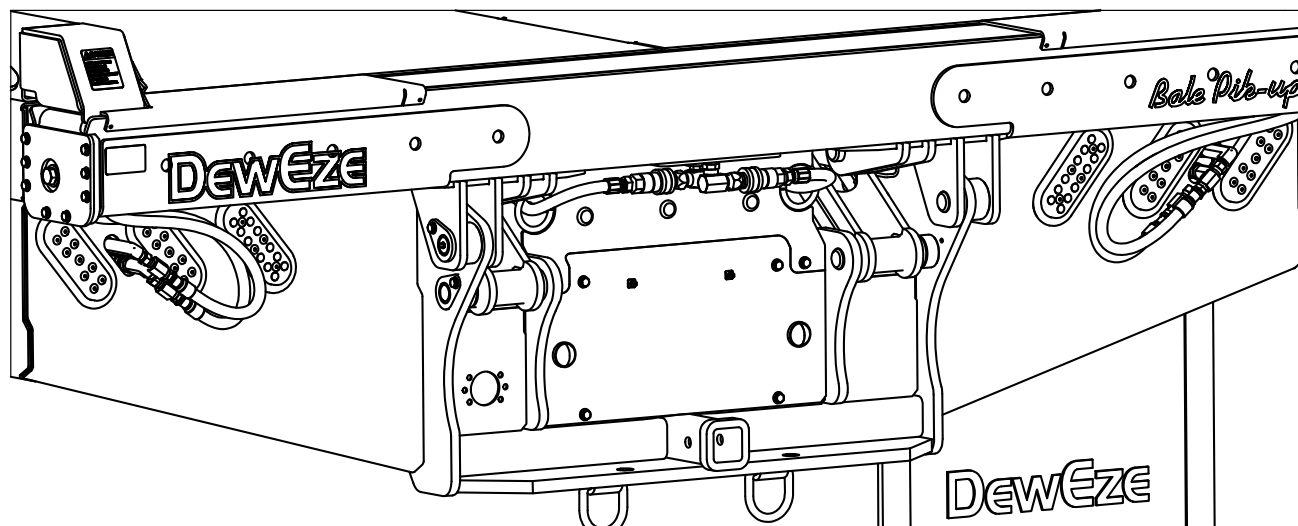
400/500

2.11

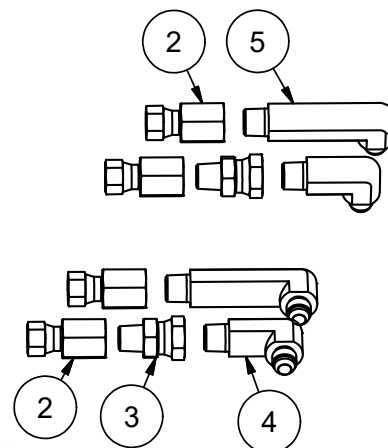
3/2/2011



XRM Adapter Update Kit # 205068



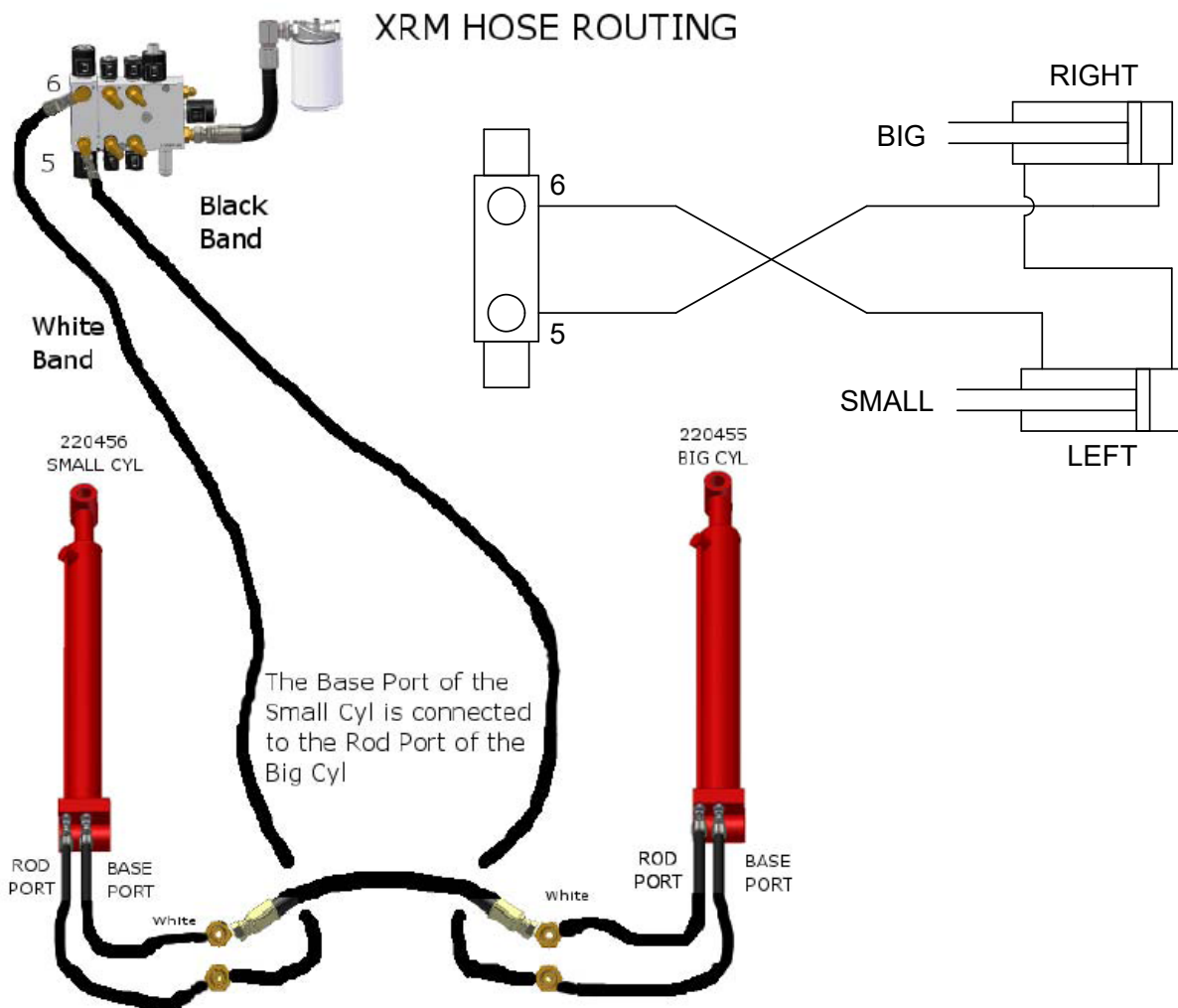
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	6	100578	Cable Tie 14" Black 50 Lb Tens
2	4	120123	ADAPTER, 6FP-6FJX
3	2	120271	ADAPTER, 6MP-6FPX
4	2	120596	ADAPTER, 6MJ-6MP LONG 90
5	2	120597	ADAPTER, 6MJ-6MP XX-LONG 90



5/11/2012

XRM HYDRAULICS

XRM SERIES	ARM HOSES 6M3K - 6FJX90M / 6FJX	EXTENSION HOSES 6M3K - 6-4MP / 6MPX	CROSSOVER HOSE 6M3K - 6FJX90M	HYDRAULIC HOSE KIT #
470, 670	2ea 220625 (148in)	4ea 220605 (54.3in)	220601 (79.6in)	223011
475, 675	2ea 220626 (164in)	4ea 220605 (54.3in)	220601 (79.6in)	223010
477, 479, 482, 484, 677, 679	2ea 220627 (174in)	4ea 220605 (54.3in)	220601 (79.6in)	223009
487, 488	2ea 220629 (200in)	4ea 220605 (54.3in)	220601 (79.6in)	223007
578, 770, 778	2ea 220626 (164in)	4ea 220605 (54.3in)	220645 (94.0in)	223021
582, 682, 684, 782, 784	2ea 220627 (174in)	4ea 220605 (54.3in)	220645 (94.0in)	223022
587, 687, 688, 787, 788	2ea 220629 (200in)	4ea 220605 (54.3in)	220645 (94.0in)	223023



5/9/2012

DewEze®

34

9/23/03

35

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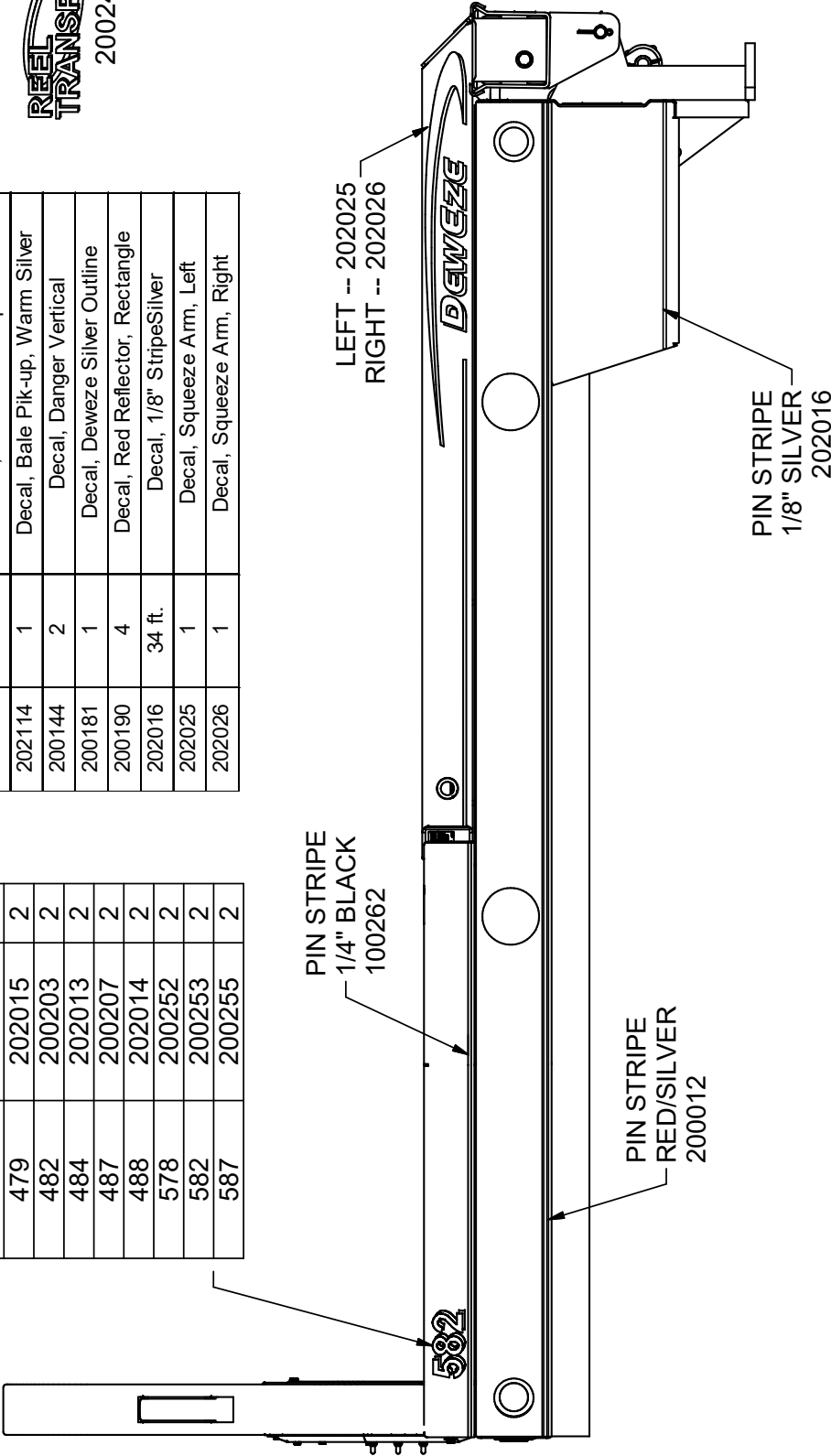
IT IS THE OWNER'S RESPONSIBILITY TO
REPLACE MISSING OR DAMAGED WARNING
DECALS. DECALS ARE AVAILABLE FROM
YOUR DEALER OR FROM THE DEWEZE
FACTORY.

400 & 500 Series Decals



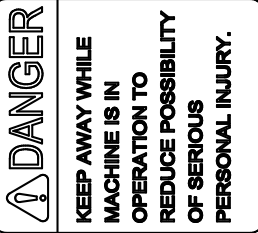
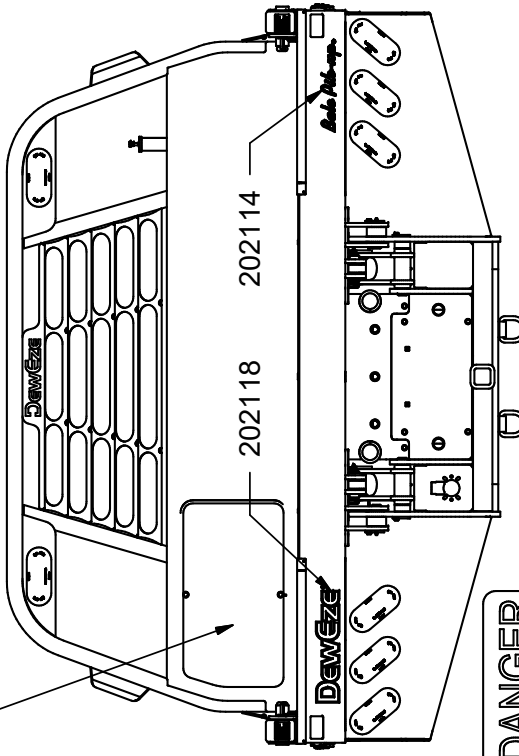
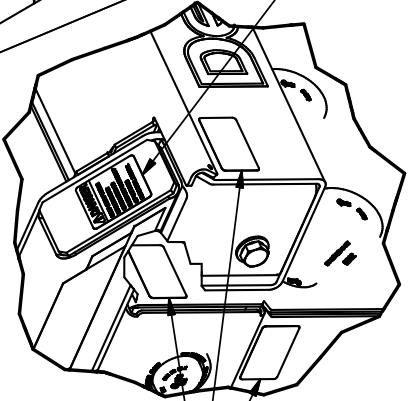
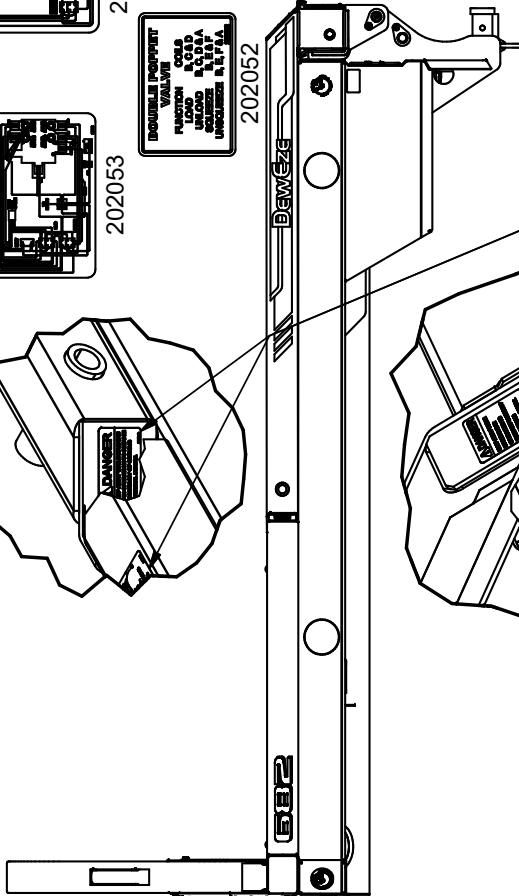
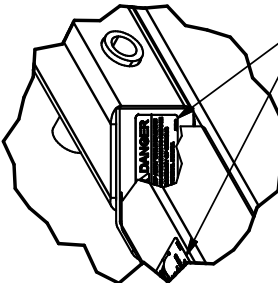
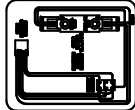
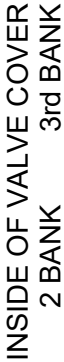
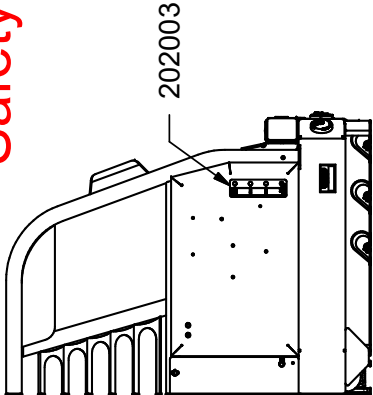
Model # Decals		
Left & Right	Part #	Qty
470	200193	2
475	200195	2
477	200197	2
479	202015	2
482	200203	2
484	202013	2
487	200207	2
488	202014	2
578	200252	2
582	200253	2
587	200255	2

Decal Kit, 4-500 Series Part # 205074		
Part #	Qty	Description
100262	20 ft.	Decal, Striping, .25 Black
200010	4	Decal, Danger Red On White
200012	30	Decal, Red/Silver Stripe-bulk
202114	1	Decal, Bale Pick-up, Warm Silver
200144	2	Decal, Danger Vertical
200181	1	Decal, Deweze Silver Outline
200190	4	Decal, Red Reflector, Rectangle
202016	34 ft.	Decal, 1/8" StripeSilver
202025	1	Decal, Squeeze Arm, Left
202026	1	Decal, Squeeze Arm, Right



Decals Safety & Operation

PART #	QTY	DESCRIPTION
200010	4	DANGER DECAL, HORIZONTAL
202114	1	BALE PIK-UP, SCRIPT, WARM SILVER
200144	2	DANGER DECAL, VERTICAL
202118	1	DEWEZE, OUTLINE, WARM SILVER
200190	6	REFLECTIVE DECAL
202003	1	DECAL, SWITCH IDENTIFICATION
202052	1	DECAL, DOUBLE POPPET VALVE
202053	1	DECAL, WIRING DIAGRAM, KAR-TECH REMOTE
202054	1	DECAL, 3rd BANK OPTION, KAR-TECH REMOTE



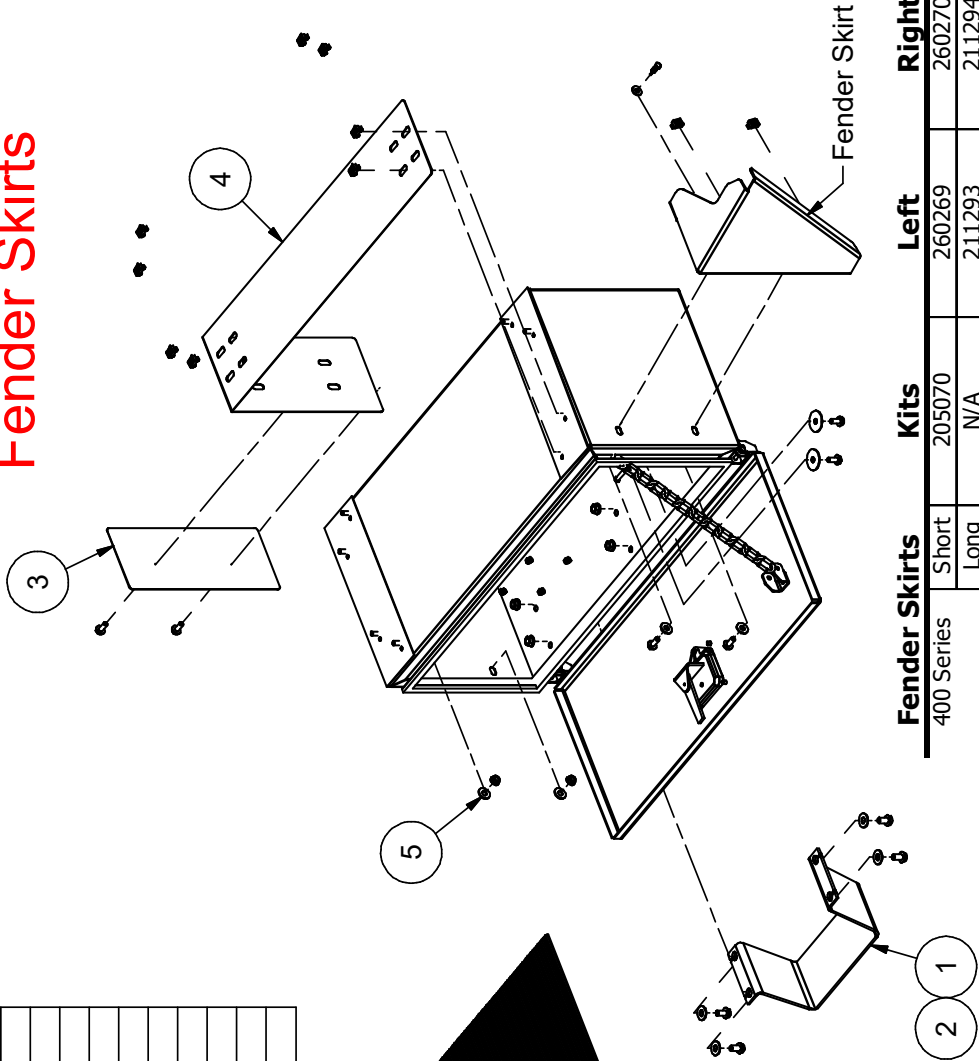
IT IS THE OWNER'S RESPONSIBILITY
TO REPLACE MISSING OR DAMAGED
WARNING DECALS. DECALS ARE
AVAILABLE FROM YOUR DEALER OR
FROM THE DEWEZE FACTORY.

6/29/2021

Toolbox Complete W/Step, Part# 205011

ITEM	QTY	PART #	DESCRIPTION
1	1	211109	STEP, TOOLBOX
2	.7 ft	100449	Traction Pad
3	1	202001	DECAL, CHIP GUARD
4	1	211684	SHIELD, TOP & SIDE
5	1	205012	BOLT PACKAGE
	10	110258	NUT, 5/16-18, CAGE TINNERMAN
	12	110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
	4	110437	BOLT, 3/8-16 X 0.75, WIZ FLANGE
	4	110645	NUT, 3/8-16 WIZ FLANGE
	4	110676	WASHER, 3/8" FLAT STANDARD
	2	110606	NUT, 5/16-18 WIZ FLANGE
	4	110665	WASHER, 5/16" FLAT STANDARD
	8	110049	WASHER, 5/16" X 1 1/2 FENDER

Flatbed Accessories
30" Toolbox
Fender Skirts



Service Parts for Toolbox		
QTY	PART #	DESCRIPTION
4	110174	NUT, 1/4-20 LOCK 2-WAY
3	112011	PUSH NUT, WASHER CAP STYLE
3	112095	CLEVIS PIN, STD ZP 1/4 X 1 5/8
1	202010	SEAL, TOOLBOX LID (TRIM-LOK X-2897)
1	211119	TOOL BOX MAT
2	212003	Gasket, Toolbox Mount use DK111 Foam
1	212017	Latch, Toolbox w/Studs, Key & Gasket
1	212015	Gasket, Toolbox Latch
1	212016	Key, Toolbox Latch
1	205014	Door, Toolbox, Service Part

Fender Skirts	Kits	Left	Right
400 Series	Short	260269	260270
	Long	211293	211294
500 Series	Short	260271	260272
	Long	211587	211588
600 Series	Short	260269	260270
	Long	260273	260274
700 Series	Short	260271	260272
	Long	260275	260276

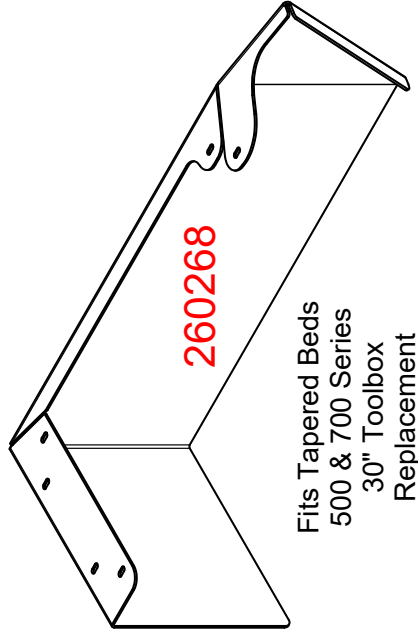
7/19/2023

Front Skirt Toolbox Replacement



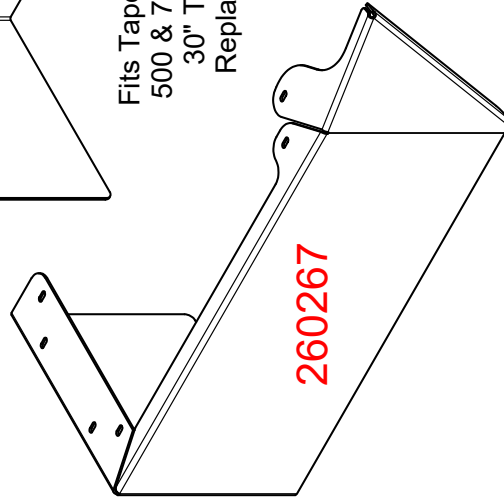
215116

Bolt Kit
1ea Required
Per Fenderskirt

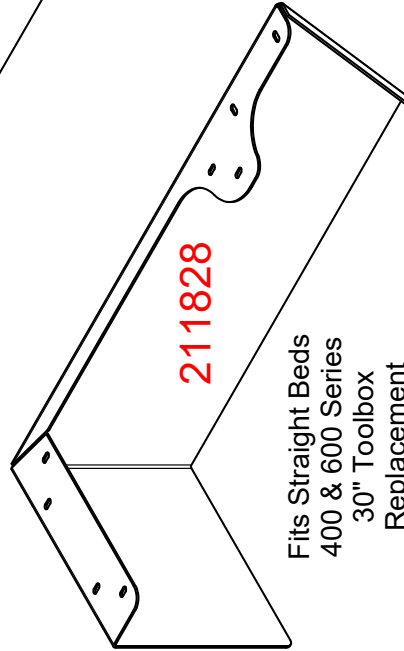


260268

Fits Tapered Beds
500 & 700 Series
30" Toolbox
Replacement

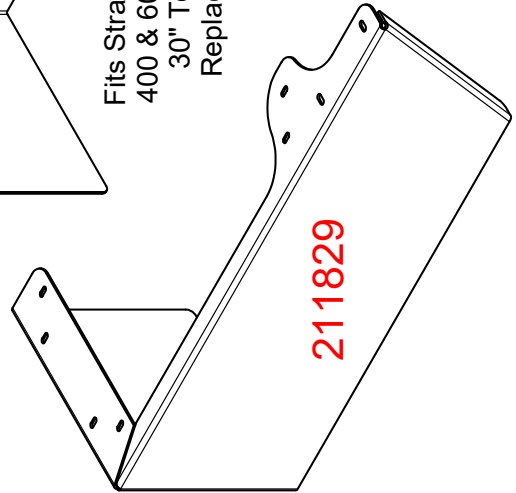


260267

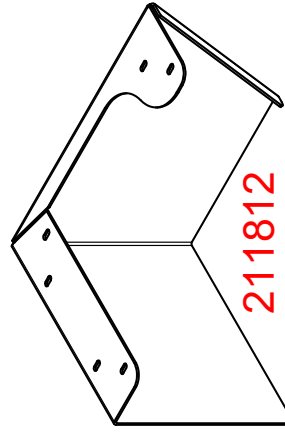


211828

Fits Straight Beds
400 & 600 Series
30" Toolbox
Replacement

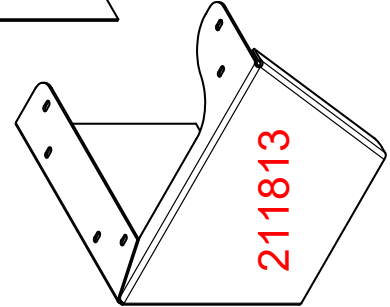


211829



211812

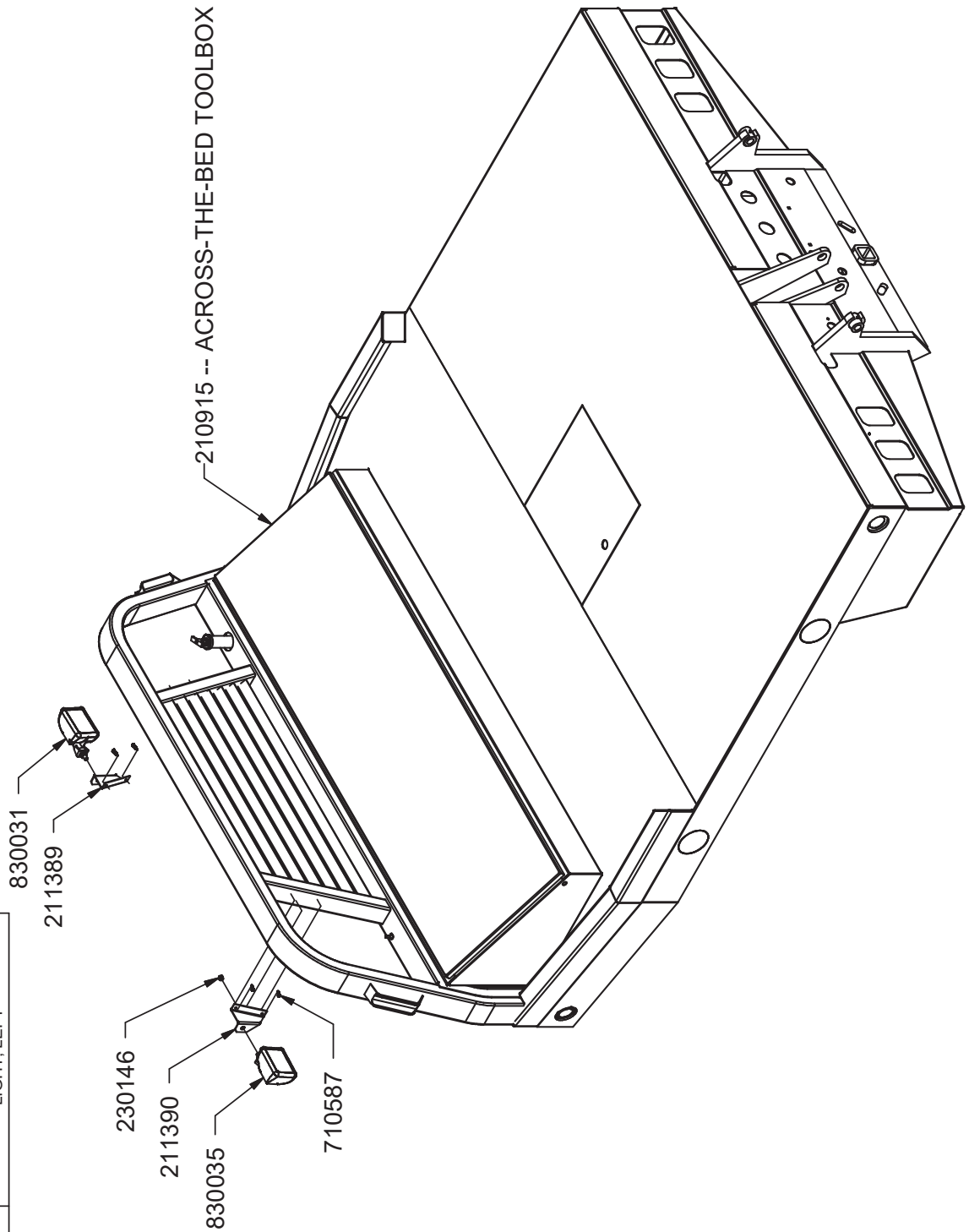
Fits Short Beds
20" Toolbox
Replacement



211813

CARGO LIGHT ASSY, PART#211391	
PART #	DESCRIPTION
211389	LIGHT BRACKET, RIGHT
211390	LIGHT BRACKET, LEFT
230146	GROMMET, 3/16 ID X 9/16 OD
710587	SCREW, 3/16 X .75 TEK SELF-TAP
830031	LIGHT, RIGHT
830035	LIGHT, LEFT

FLATBED ACCESSORIES CARGO LIGHTS & ACROSS THE BED TOOLBOX



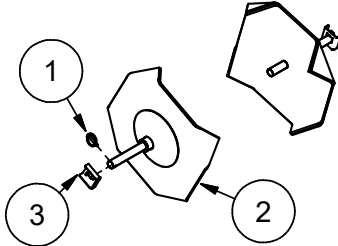


DETAIL SCALE 2:1

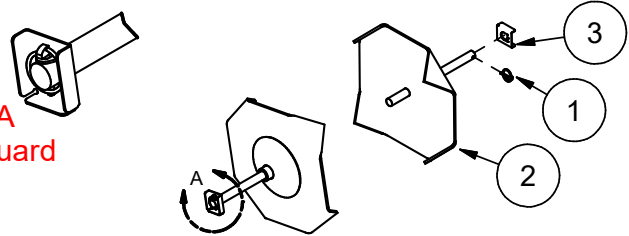
Spinners & Risers

Spinner Assy 16" Pair, Part# 210008

ITEM	QTY	PART #	DESCRIPTION
1	2	210006	Pin, Lynch 1/4 x 1 1/2
2	2	210007	WELDMENT, SPINNER 16"
3	2	211513	LYNCH PIN GUARD

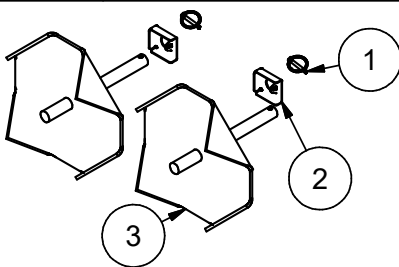


DETAIL A
Lynch Pin Guard



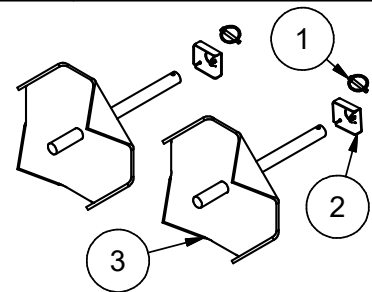
Spinner Assy 12" Pair, Part# 215081

ITEM	QTY	PART #	DESCRIPTION
1	2	210006	Pin, Lynch 1/4 x 1 1/2
2	2	211513	LYNCH PIN GUARD
3	2	215080	WELDMENT, SPINNER 12"



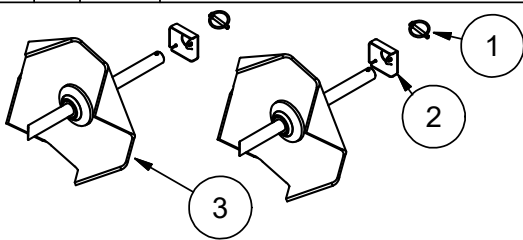
Spinner Assy 12" Pair, XRM, Part# 215234

ITEM	QTY	PART #	DESCRIPTION
1	2	210006	Pin, Lynch 1/4 x 1 1/2
2	2	211513	LYNCH PIN GUARD
3	2	215233	WELDMENT, SPINNER 12" XRM



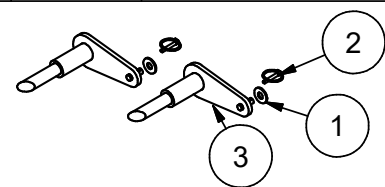
Spinner Assy, 12" Swivel Pair Part# 205077

ITEM	QTY	PART #	DESCRIPTION
1	2	210006	Pin, Lynch 1/4 x 1 1/2
2	2	211513	LYNCH PIN GUARD
3	2	215247	Weldment, Spinner, Swivel (1" Ø shaft)



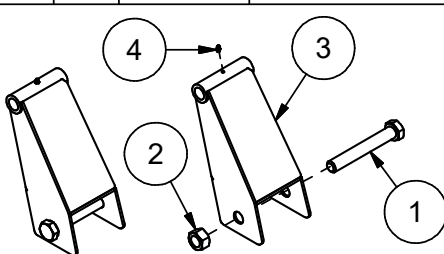
Spinner Extension Pair, Part # 205076

ITEM	QTY	PART #	DESCRIPTION
1	2	110658	Washer, 1/2 Flat
2	2	210006	Pin, Lynch 1/4 x 1 1/2
3	2	215235	Spinner Extension Pin



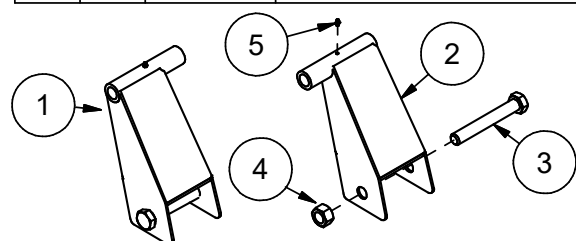
Riser, Offset Pair, Part# 211145

ITEM	QTY	PART #	DESCRIPTION
1	2	110364	BOLT, 1-8 X 7.0
2	2	110601	NUT, 1-8
3	2	211125	RISER (no hardware)
4	2	510174	GREASE ZERK, 1/4-28 ST

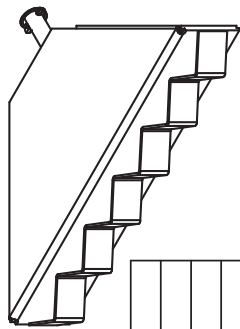


Risers XRM (sold individually)

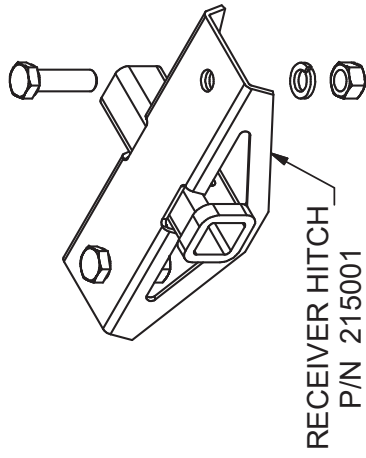
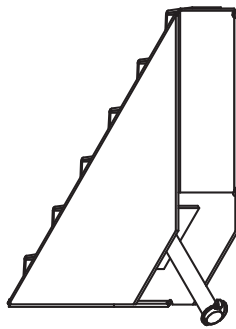
ITEM	QTY	PART #	DESCRIPTION
1	1	205349	LEFT RISER (with hardware)
2	1	205350	RIGHT RISER (with hardware)
3	2	110364	BOLT, 1-8 X 7.0
4	2	110601	NUT, 1-8
5	2	510174	GREASE ZERK, 1/4-28 ST



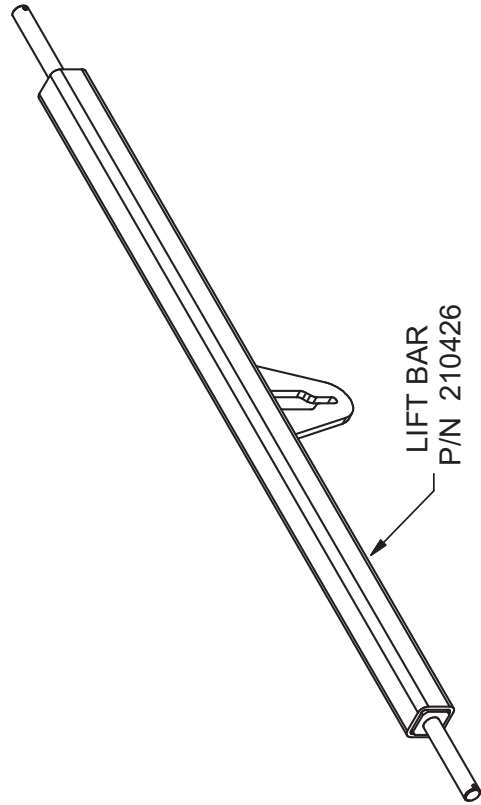
OTHER ACCESSORIES



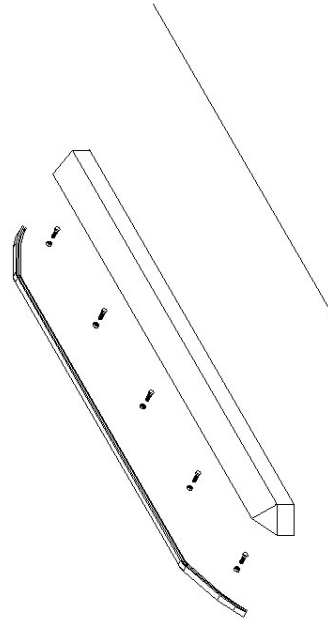
ADAPTER ASSY 210933		
PART #	QTY	DESCRIPTION
210929	2	4' BALE ADAPTER
210006	2	Pin, Lynch 1/4 x 1 1/2



RECEIVER HITCH
P/N 215001

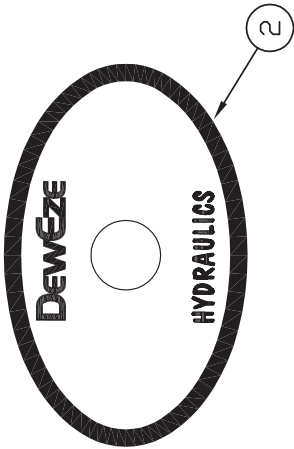


LIFT BAR
P/N 210426

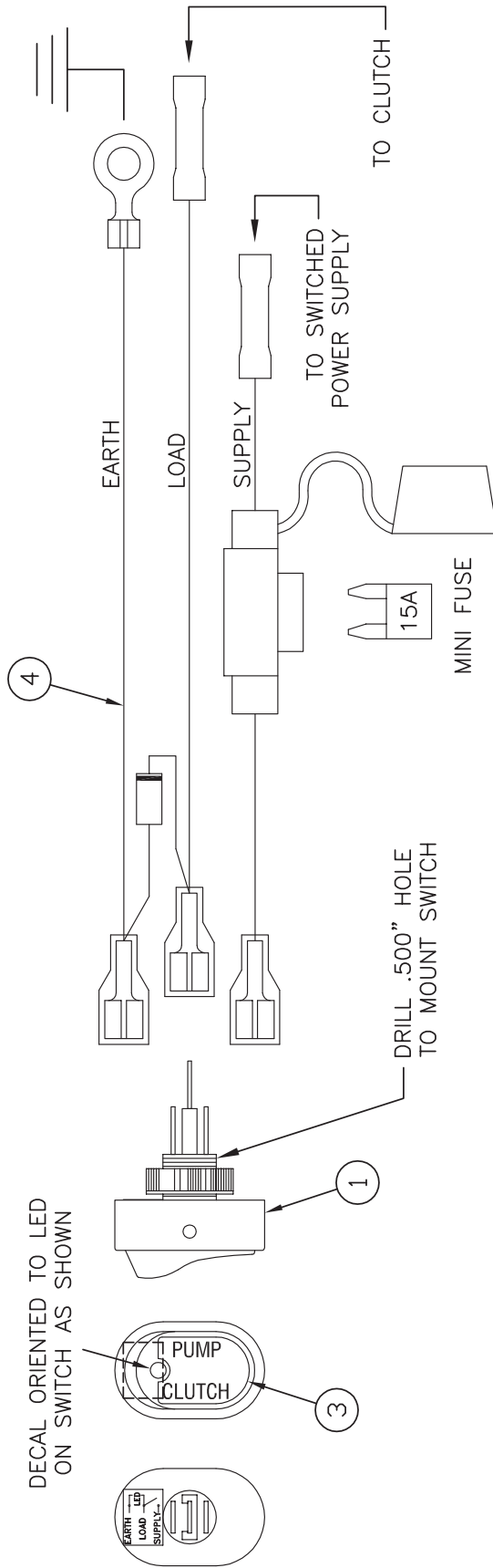


211480 FENDER KIT
211439 FENDER WELDMENT
211481 EDGE TRIM

ITEM	QUAN	PART #	NAME
1	1	132044	SWITCH, SPST ROCKER LED
2	1	702002	DECAL, DEWEZE HYDRAULICS
3	1	702061	DECAL, PUMP CLUTCH
4	1	732002	HARNESS, CLUTCH CONTROL



DECAL ORIENTED TO LED
ON SWITCH AS SHOWN



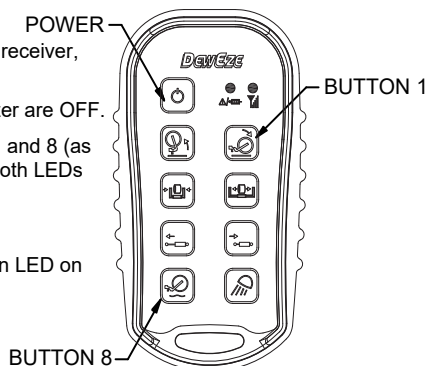
SWITCH, CLUTCH CONTROL ASSY 735001

Remote Control

SYNCHRONIZING TRANSMITTER AND RECEIVER

To teach the transmitter ID code to the receiver, use the following procedure:

1. Make sure the receiver and transmitter are OFF.
2. Press and hold transmitter's button 1 and 8 (as shown) then press Power button until both LEDs start blinking, then release buttons.
3. Apply power to the receiver.
4. Wait for ~5 seconds or until the green LED on the transmitter starts blinking rapidly.
5. Teach complete.

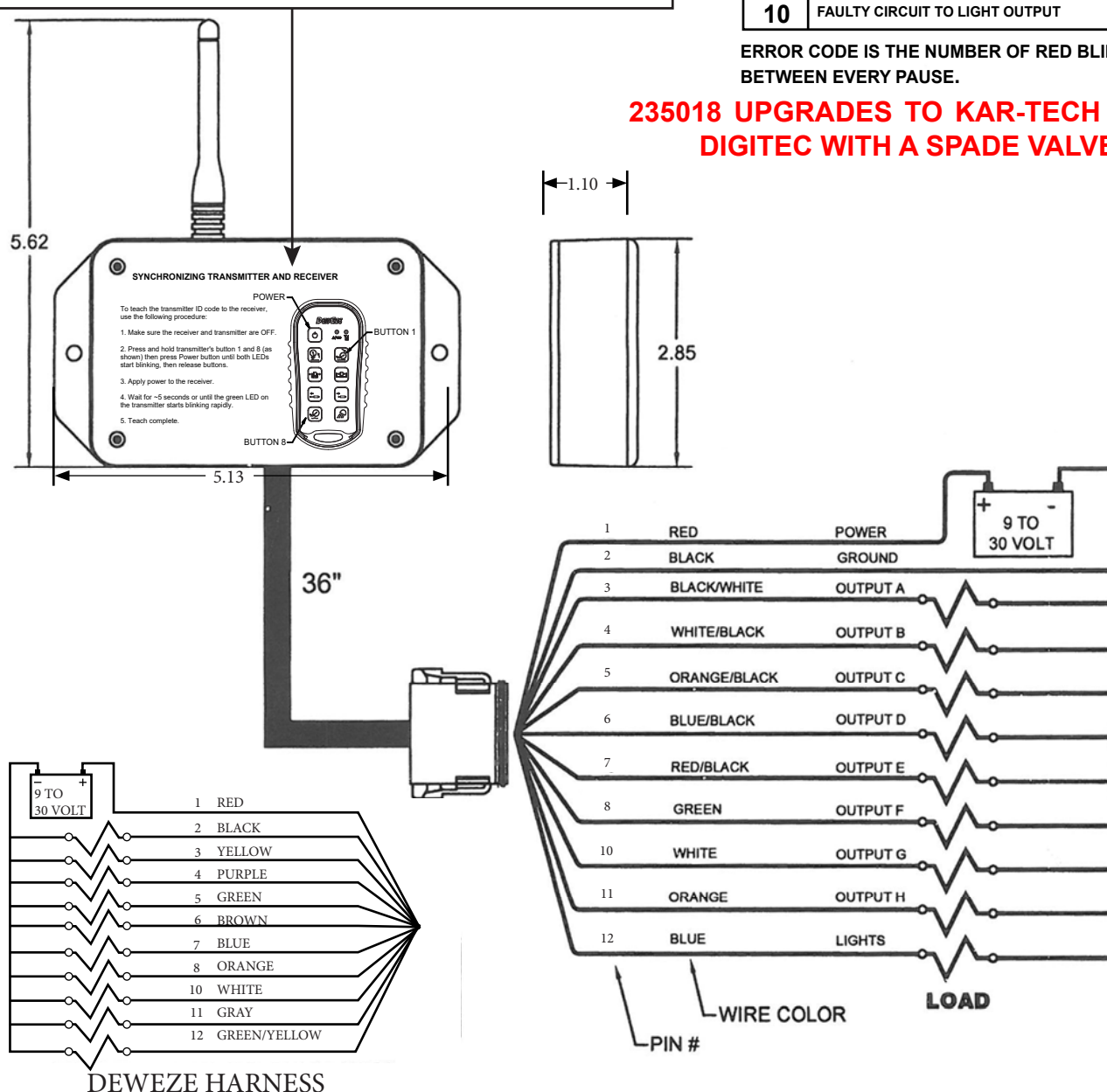


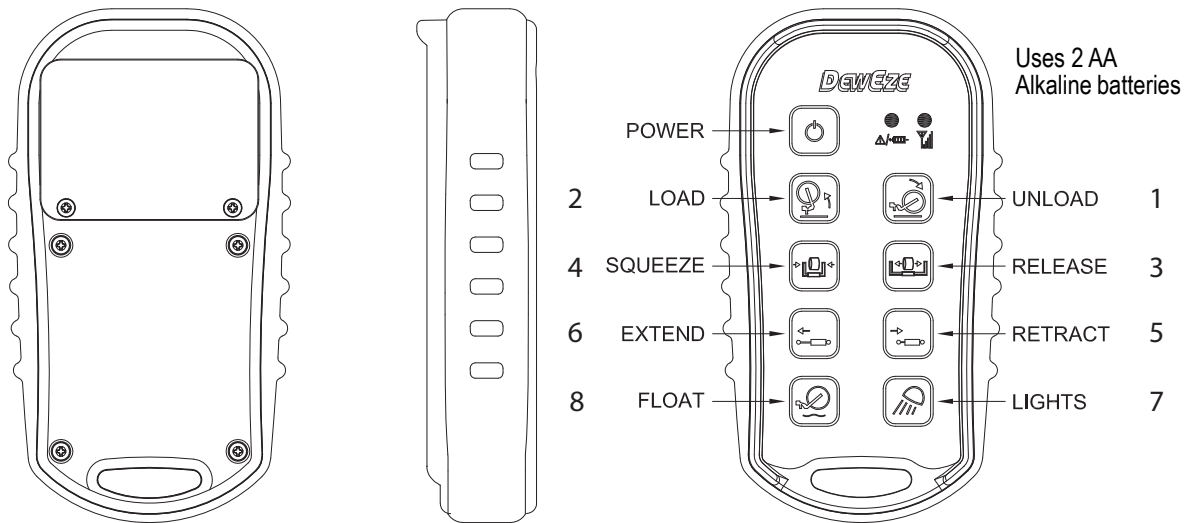
TRANSMITTER ERROR CODE CHART

ERROR CODE	PROBABLE CAUSE
1	LOW BATTERY
2	FAULTY CIRCUIT TO OUTPUT A
3	FAULTY CIRCUIT TO OUTPUT B
4	FAULTY CIRCUIT TO OUTPUT C
5	FAULTY CIRCUIT TO OUTPUT D
6	FAULTY CIRCUIT TO OUTPUT E
7	FAULTY CIRCUIT TO OUTPUT F
8	FAULTY CIRCUIT TO OUTPUT G
9	FAULTY CIRCUIT TO OUTPUT H
10	FAULTY CIRCUIT TO LIGHT OUTPUT

ERROR CODE IS THE NUMBER OF RED BLINKS BETWEEN EVERY PAUSE.

235018 UPGRADES TO KAR-TECH FROM DIGITEC WITH A SPADE VALVE.





SYSTEM OPERATION:

Press and hold the power button on the transmitter until both LEDs turn on, then release. The green LED will flash rapidly when communication has been established. When the receiver is off, the red LED will flash slowly indicating this. With the receiver on, press the corresponding buttons on the transmitter keypad to turn on and off each of the outputs.

INDICATOR LIGHTS:

The transmitter has two LED indicators, the red BATTERY/DIAGNOSTIC indicator and the green TRANSMIT indicator.

The green TRANSMIT indicator flashes rapidly whenever there is communication between the transmitter and the receiver.

The red BATTERY/DIAGNOSTIC indicator blinks once per second when the battery voltage is low. It also blinks when there is a problem with the system in the form of an error code. Refer to the ERROR CODE CHART tables for more information.

Note: To check for low battery, turn the receiver off and leave the transmitter on. If the transmitter red LED continues to blink, the battery is low. If the red LED blinks only when the receiver is ON, count the number of blinks and refer to the ERROR CODE CHART.

SLEEP TIME:

The transmitter is factory set to turn off (sleep) after 15 minutes. Use the following procedure to change the time before sleep mode.

1. Press and hold 3 (UNLOAD), 4 (SQUEEZE), 8 (FLOAT) and POWER
2. Release the buttons and both lights should blink once per second.
3. Choose one of the following buttons:
 - a. 1 (UNLOAD) = 15 min
 - b. 2 (LOAD) = 30 min
 - c. 3 (UNLOAD) = 1 hr
 - d. 4 (SQUEEZE) = 2 hr
 - e. 8 (FLOAT) = sleep disabled.

PROGRAMMING OUTPUTS:

The Kar-Tech transmitter can be programmed for different machines. Follow steps to ensure correct mode is enabled.

BALE BED

1. Ensure transmitter and receiver are in sync
2. Turn OFF receiver and turn transmitter ON
3. Press and hold buttons 1 (UNLOAD), 4 (SQUEEZE), & 8 (FLOAT). Red LED will start blinking.
4. Turn ON receiver
5. Hold and release button 2 (LOAD).
6. Hold and release POWER button to save and exit the config mode.

SPECIFICATIONS:

RF Transmit power (EIRP): 10 mW

RF Frequency: 902-928 MHz

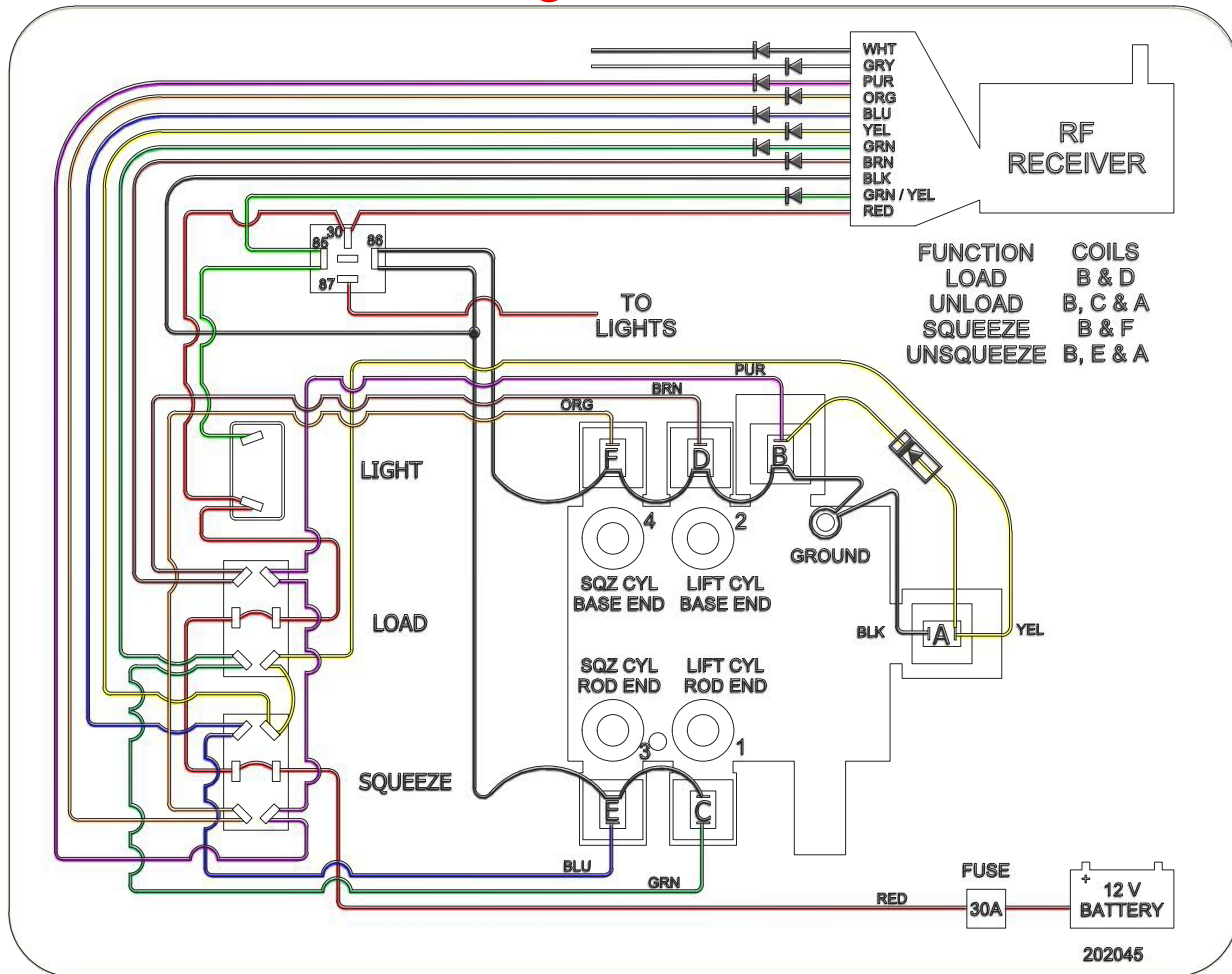
Operating temperature - Radio: -40C to +85C

Battery life (min): 30 hours continuous.

Vibration: 3G to 200Hz

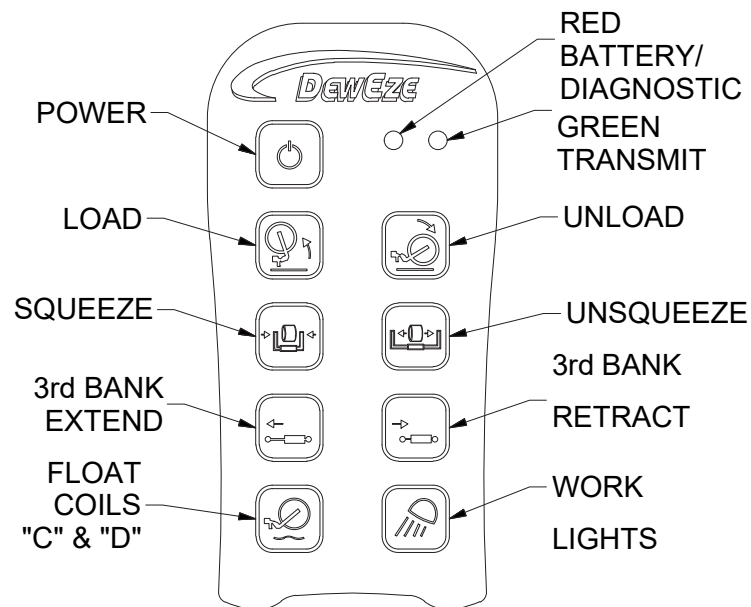
Outputs: 5A max each (20A system max)

2 Bank Wiring, Kar-Tech Remote

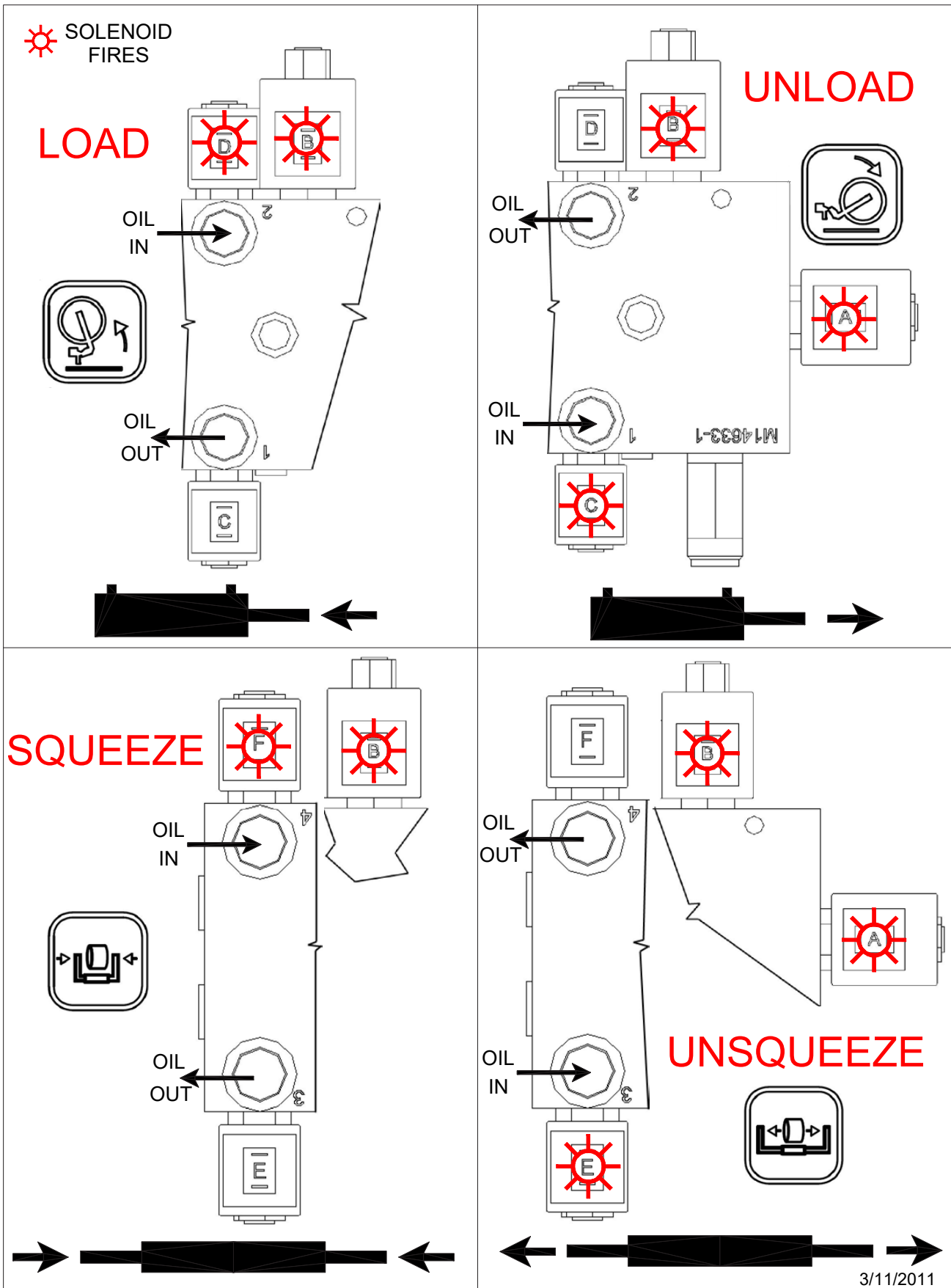


Decal Part# 202045

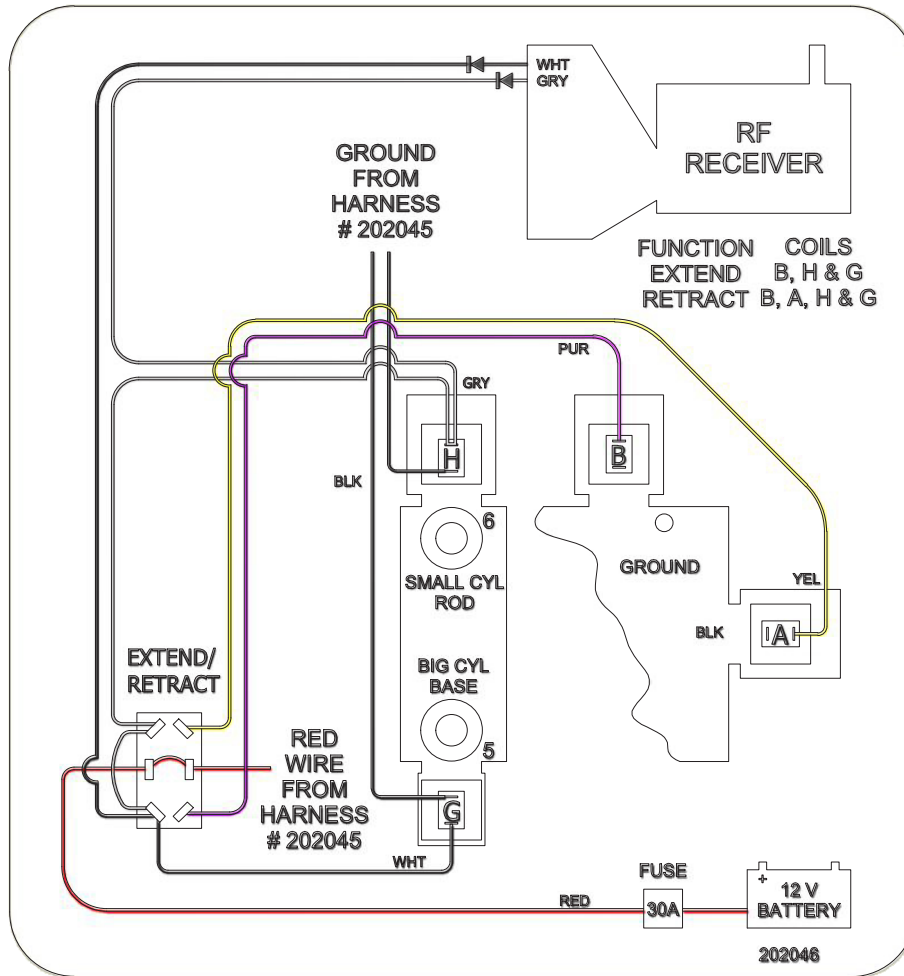
Harness Part# 232087



3/11/2011

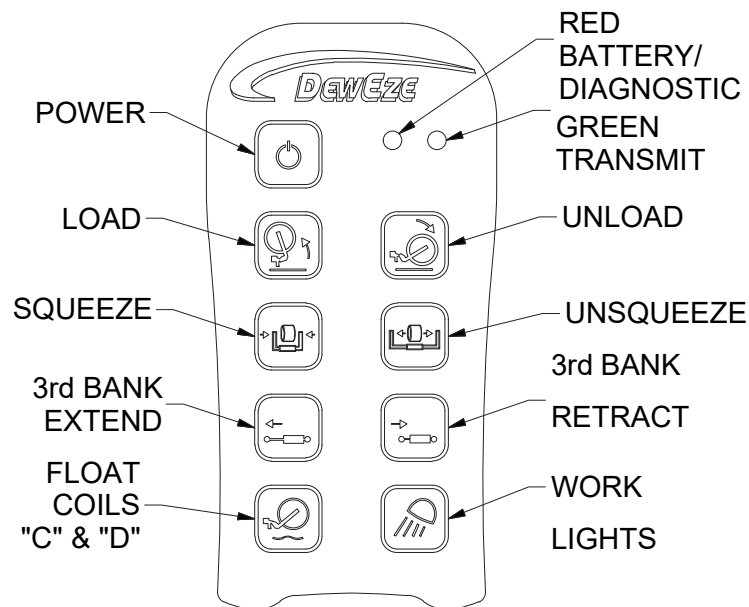


3rd Bank Wiring, Kar-Tech Remote



Decal Part# 202046

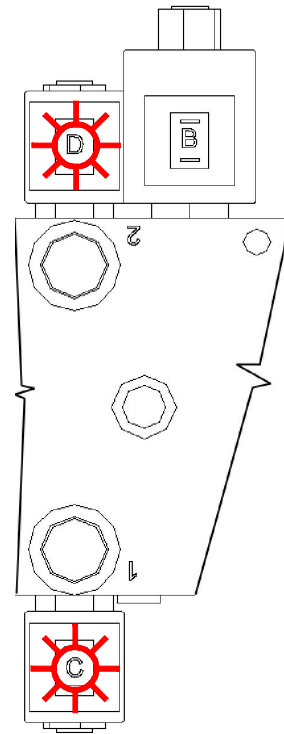
Harness Part# 232088



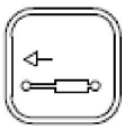
3/11/2011

 SOLENOID FIRES

FLOAT

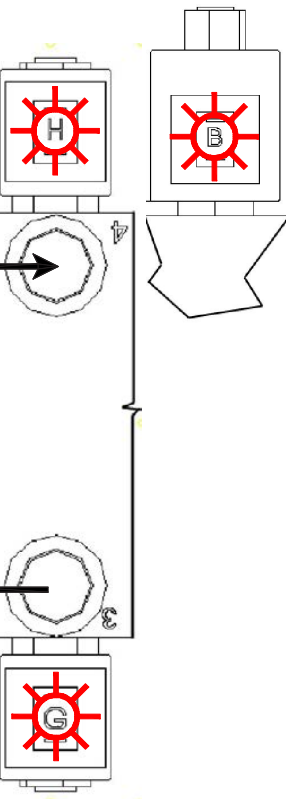


EXTEND



OIL IN

OIL OUT

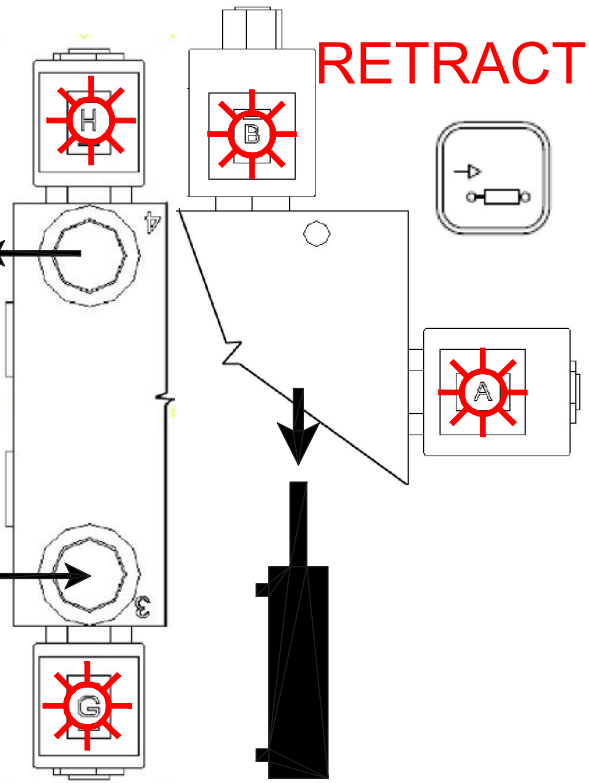


RETRACT



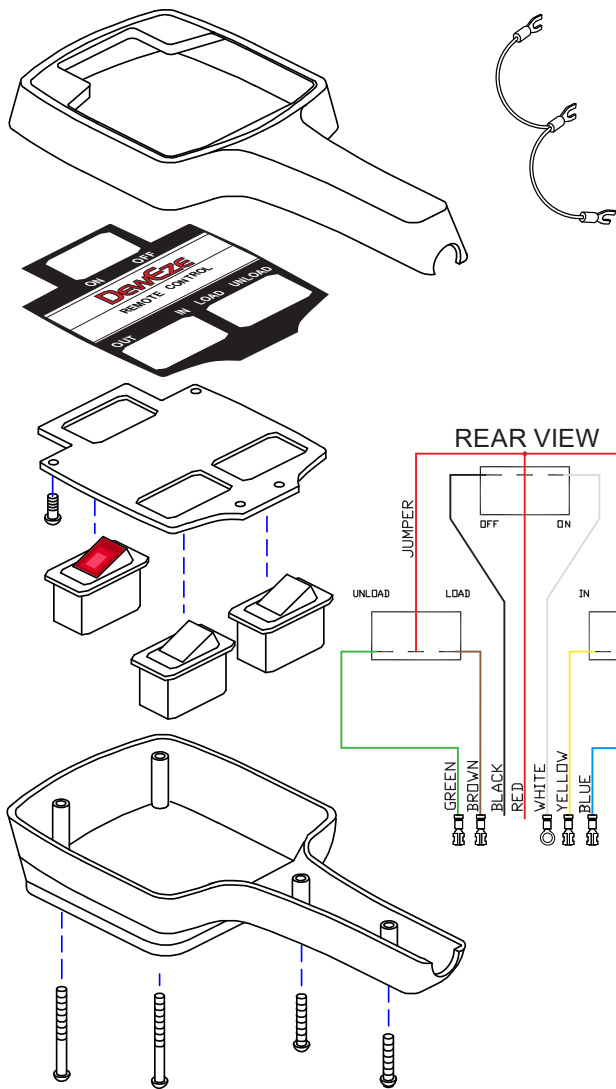
OIL OUT

OIL IN



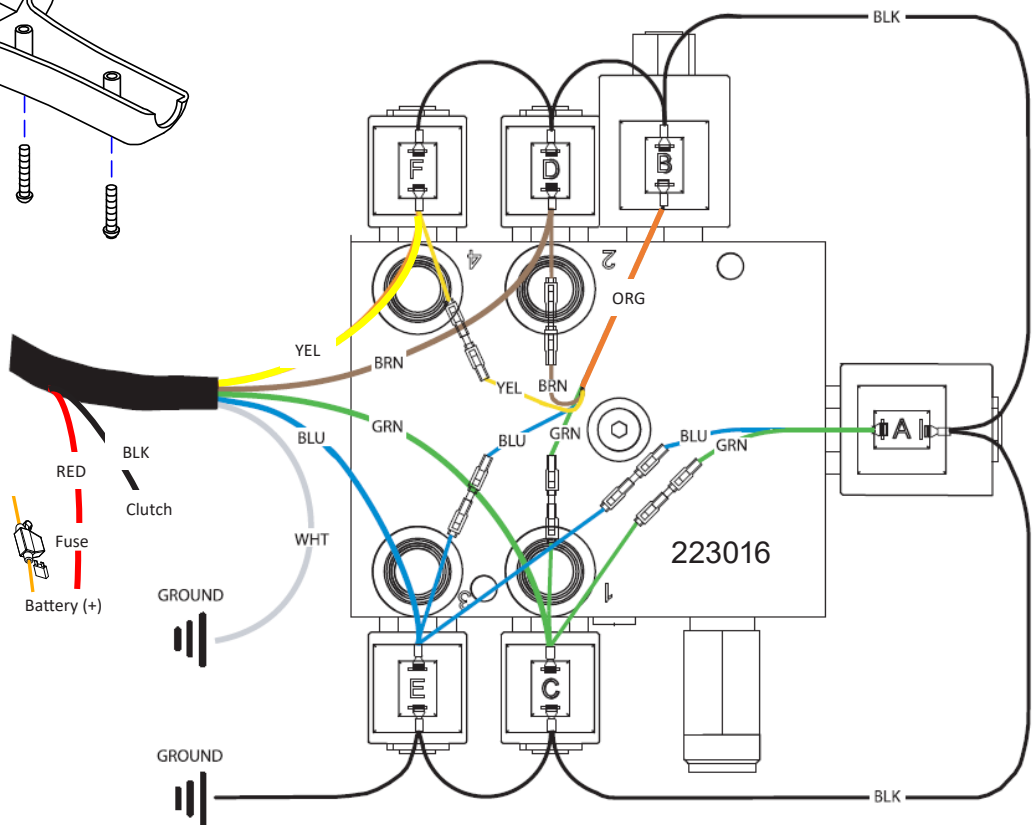
3/11/2011

CORDED: 2 BANK GEN II (SMALL MONOBLOCK, SPADE)

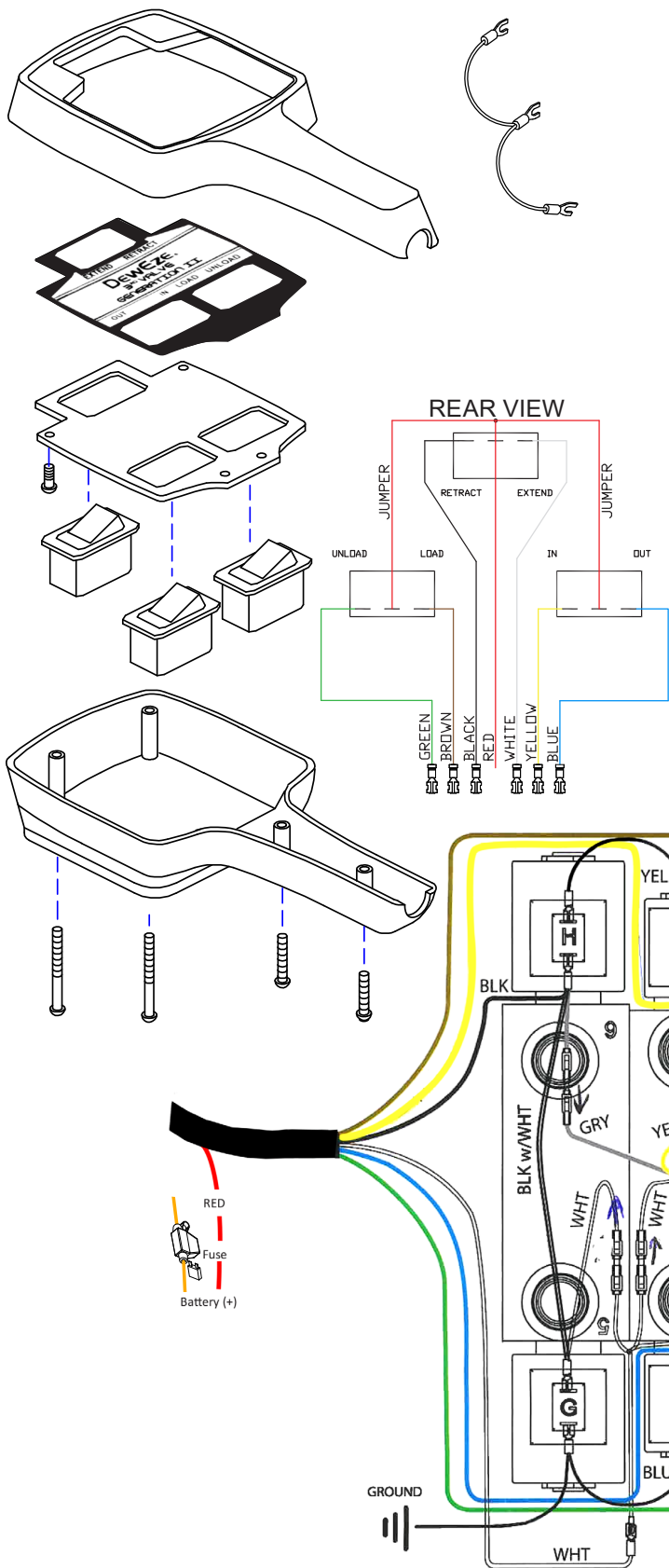


Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	130001	Rocker Switch w/Light
2	2	130002	Rocker Switch Momentary
3	1	150001	Top Housing, Hand Control
4	1	150003	Bottom Housing, Hand Control
5	1	150002	Switch Plate, Hand Control
6	1	150004	Decal, Hand Control
7	4	150013	Screw, #6 X 1/4 Type F
8	2	150015	Screw, #6 X 1.5 Sheetmetal
9	2	150014	Screw, #6 X 1 Sheetmetal
10	1	230147	Cable W/Fuse, Holder & Jumper
11	1	232038	Diode Harness
12	1	232039	Ground Harness
13	1	132001	Fuse Holder, ATC, 14ga., Mini
14	1	132002	Fuse, Mini 30 Amp
15	1	130032	Jumper, 3-end

KITS			
ITEM	QTY	PART #	DESCRIPTION
1	1	150006	Kit, Hand Control Corded
2	1	235010	Kit, Diode & Ground Harnesses



CORDED: XRM 3 BANK GEN II (SMALL MONOBLOCK, SPADE)



Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	3	130002	Rocker Switch Momentary
2	1	150001	Top Housing, Hand Control
3	1	150003	Bottom Housing, Hand Control
4	1	150002	Switch Plate, Hand Control
5	1	150036	Decal, Hand Control
6	4	150013	Screw, #6 X 1/4 Type F
7	2	150015	Screw, #6 X 1.5 Sheetmetal
8	2	150014	Screw, #6 X 1 Sheetmetal
9	1	230147	Cable W/Fuse, Holder & Jumper
10	1	232052	Diode Harness
11	1	232051	Ground Harness
12	1	132001	Fuse Holder, ATC, 14ga., Mini
13	1	132002	Fuse, Mini 30 Amp
14	1	130032	Jumper, 3-end

KITS			
ITEM	QTY	PART #	DESCRIPTION
1	1	150037	Kit, Hand Control Corded

DIGITEC REMOTES ARE OBSOLETE.

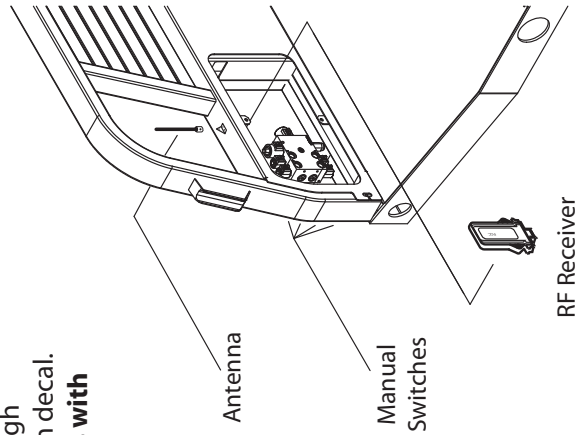
DewEze no longer supplies parts for Digitec systems. If troubleshooting cannot fix an issue, using a corded remote or upgrading to a KAR-TECH system may be necessary.

1. Bolt left side of RF Receiver through existing hole in headache rack. Drill hole for right side, if necessary, and attach with bolt.
2. Mount triangular bracket with self-tapping screws (if welded bracket is not present). Use rubber grommets and 1/2" screw to attach antenna.
3. Run light green wire from receiver through hole in headache rack and attach to antenna. Drill hole, if necessary.

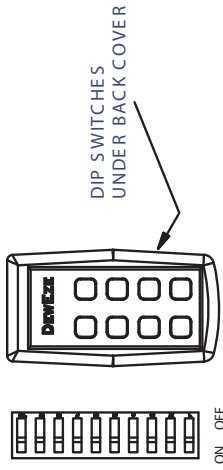
NOTE: Metal objects such as cake feeders or fuel tanks may interfere with radio waves from transmitter. The antenna may be moved to the top of the headache rack, or a second antenna may be installed in a different location to increase reception.

4. Mount manual switches through holes in headache rack. Attach decal.
Cover all switches and relays with plasticized undercoating.

NOTE: The manual switches must be protected with rubber boots. The boots must be installed with the correct stem length on the lever so the they are not stretched when the switch is used. This is done by adjusting the jam nut on the lever stem.

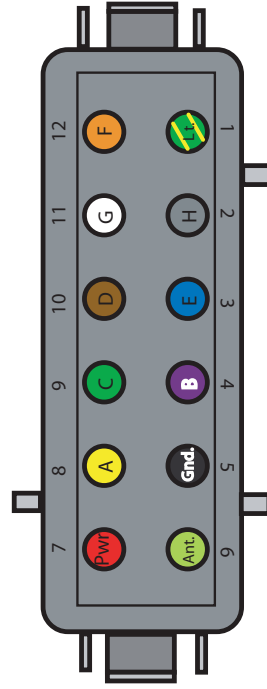


5. Set dip switches in transmitter to match dip switches in receiver. Use serial no. stickers to record ON/OFF positions and attach to both receiver and transmitter for future reference.



6. If the Deutsch Connector needs to be assembled, insert colored wires into the numbered positions as described below.

(Rear Side of Male Plug - Deutsch Connector)



7. Connect the colored wires to the valve as indicated below. See the following wiring diagrams for 2 and 3 bank wiring.

1. GN/YLW
2. GRAY
3. BLUE
4. PURPLE
5. BLACK
6. LT. GREEN
7. RED
8. YLW
9. GREEN
10. BROWN
11. WHITE
12. ORANGE

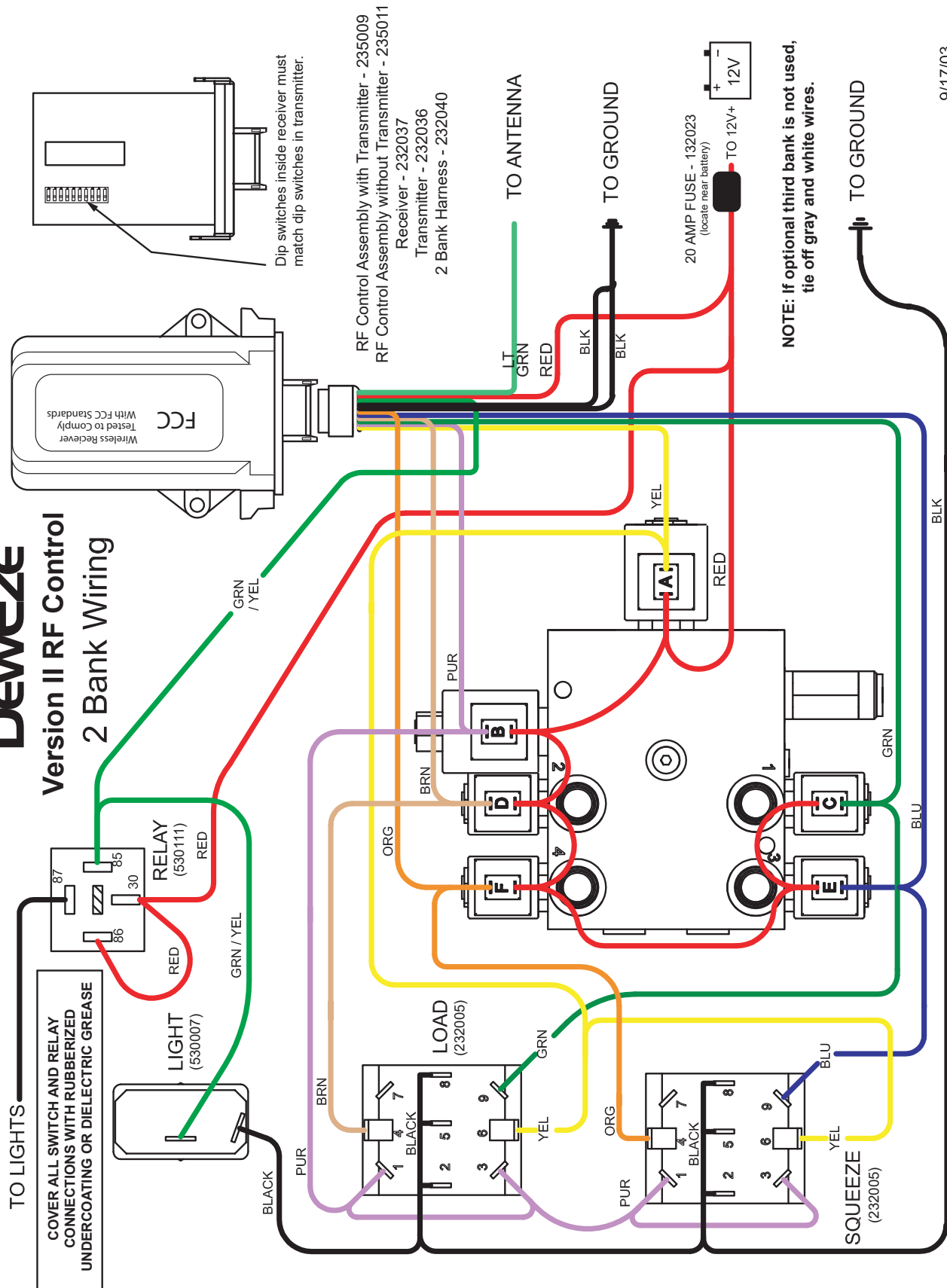
- Connect to LT GREEN/YELLOW WIRE from LIGHT RELAY
- Connect to VALVE H (3rd bank option only)
- Connect to VALVE E
- Hook to PURPLE SWITCH WIRE and Connect to VALVE B
- Connect to GROUND
- Connect to ANTENNA**
- Connect to POWER
- Connect to VALVE A
- Connect to VALVE C
- Hook to BROWN SWITCH WIRE and Connect to VALVE D
- Connect to VALVE G (3rd bank option only)
- Connect to VALVE F

400/500

55

11/04

DewEze Version II RF Control 2 Bank Wiring



NOTE: The SQUEEZE switch (232005) may be replaced with the optional DETENT switch (232056) for use with rear remote outlets. NOT FOR USE WITH ADD-ON VALVE

9/17/03

DewEze

Version II RF Control

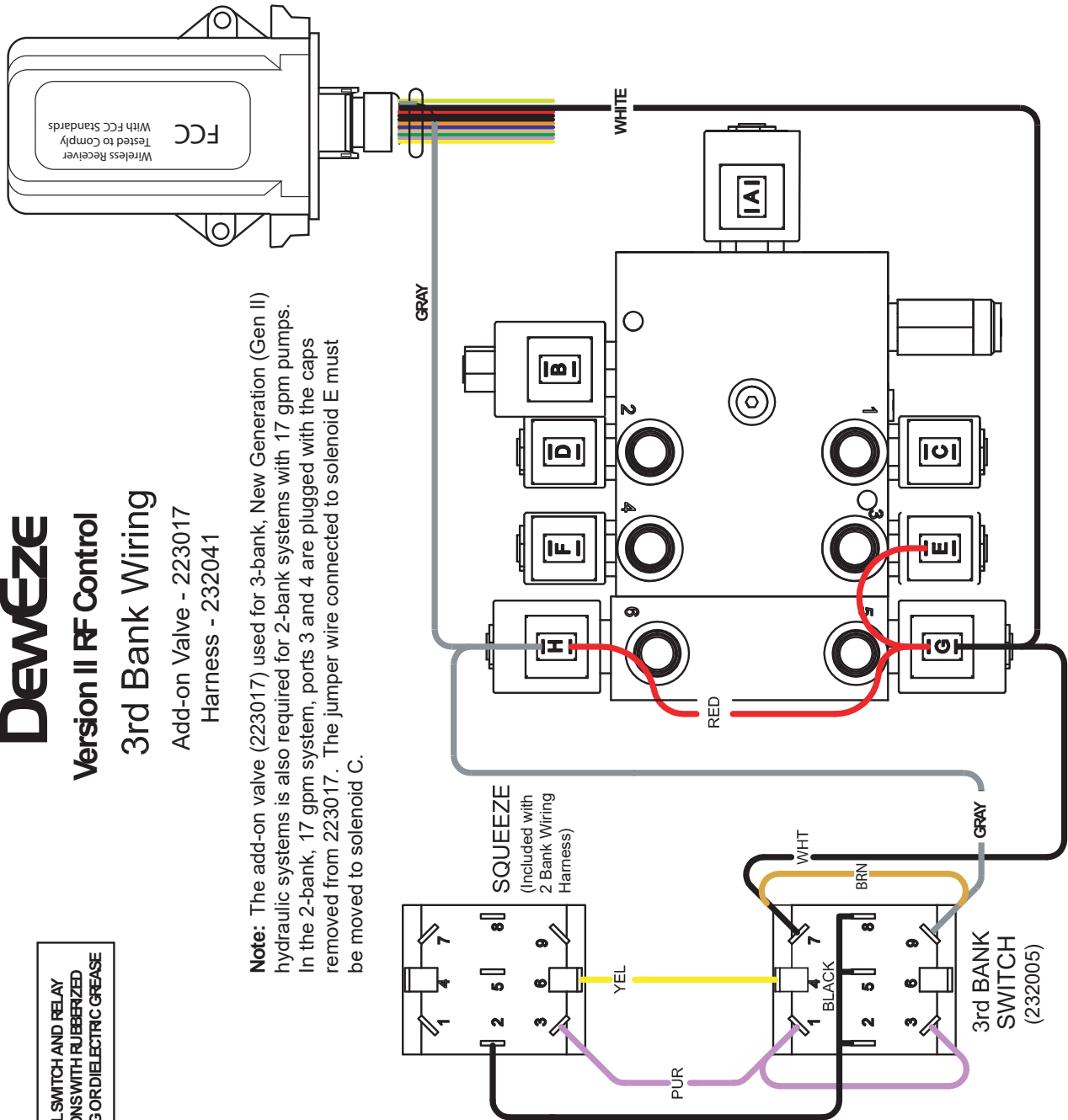
3rd Bank Wiring

Add-on Valve - 223017

Harness - 232041

COVER ALL SWITCH AND RELAY
CONNECTIONS WITH RUBBERIZED
UNDERCOATING OR DIELECTRIC GREASE

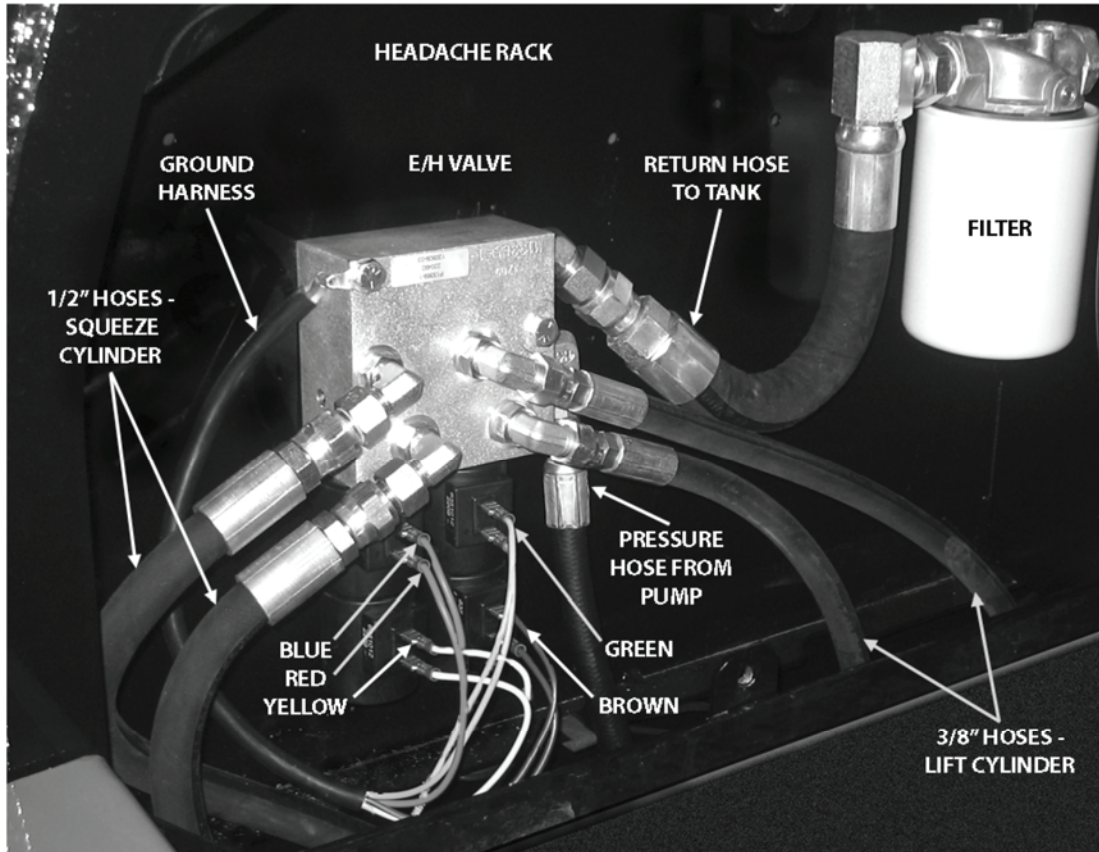
Note: The add-on valve (223017) used for 3-bank, New Generation (Gen II) hydraulic systems is also required for 2-bank systems with 17 gpm pumps. In the 2-bank, 17 gpm system, ports 3 and 4 are plugged with the caps removed from 223017. The jumper wire connected to solenoid E must be moved to solenoid C.



Appendix II

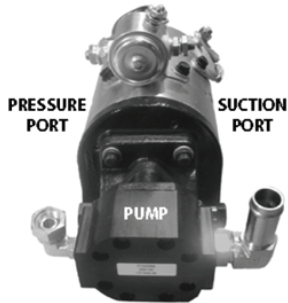
Standard E/H Power Kit

E / H KIT INSTALLATION INSTRUCTIONS

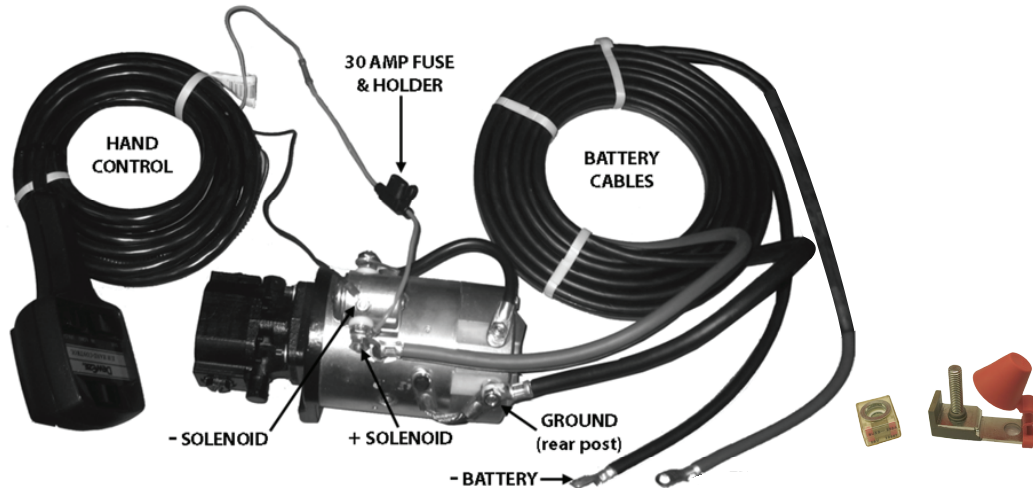
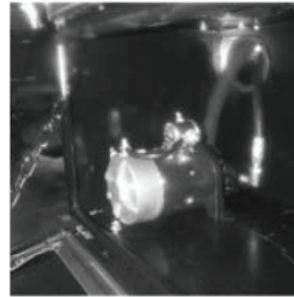
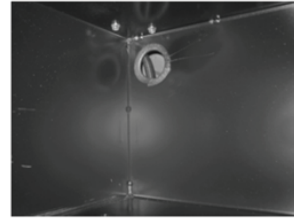


- 1) Attach adapters to E/H valve and install inside cavity on headache rack.
- 2) Attach return hose to valve and filter housing. Attach pressure hose from pump.
- 3) Attach blue and yellow wires from hand control to valve cartridge that controls squeeze cylinder as indicated.
- 4) Attach green and brown wires from hand control to valve cartridge that controls lift cylinder as indicated.
- 5) Attach ground harness to valve coils with similar color wires (yellow, brown and green). Blue and red wires are on same coil.
- 6) Attach 1/2" hoses from squeeze cylinder to side of valve controlled by blue and yellow wires. If hand control does not respond as desired, pioneer couples on rear of bed may be reversed or blue and yellow wires may be reversed.
- 7) Attach 3/8" hoses from lift cylinder side of valve controlled by green and brown wires. If hand control does not respond as desired, green and brown wires may be reversed.

- 8) Use diagram to locate holes in driver's side toolbox.
- 9) Drill 2.5" hole with hole saw and use molding to protect hoses from rough edges.
- 10) Drill 3/8" holes for pump as indicated and bolt pump to inside of toolbox.



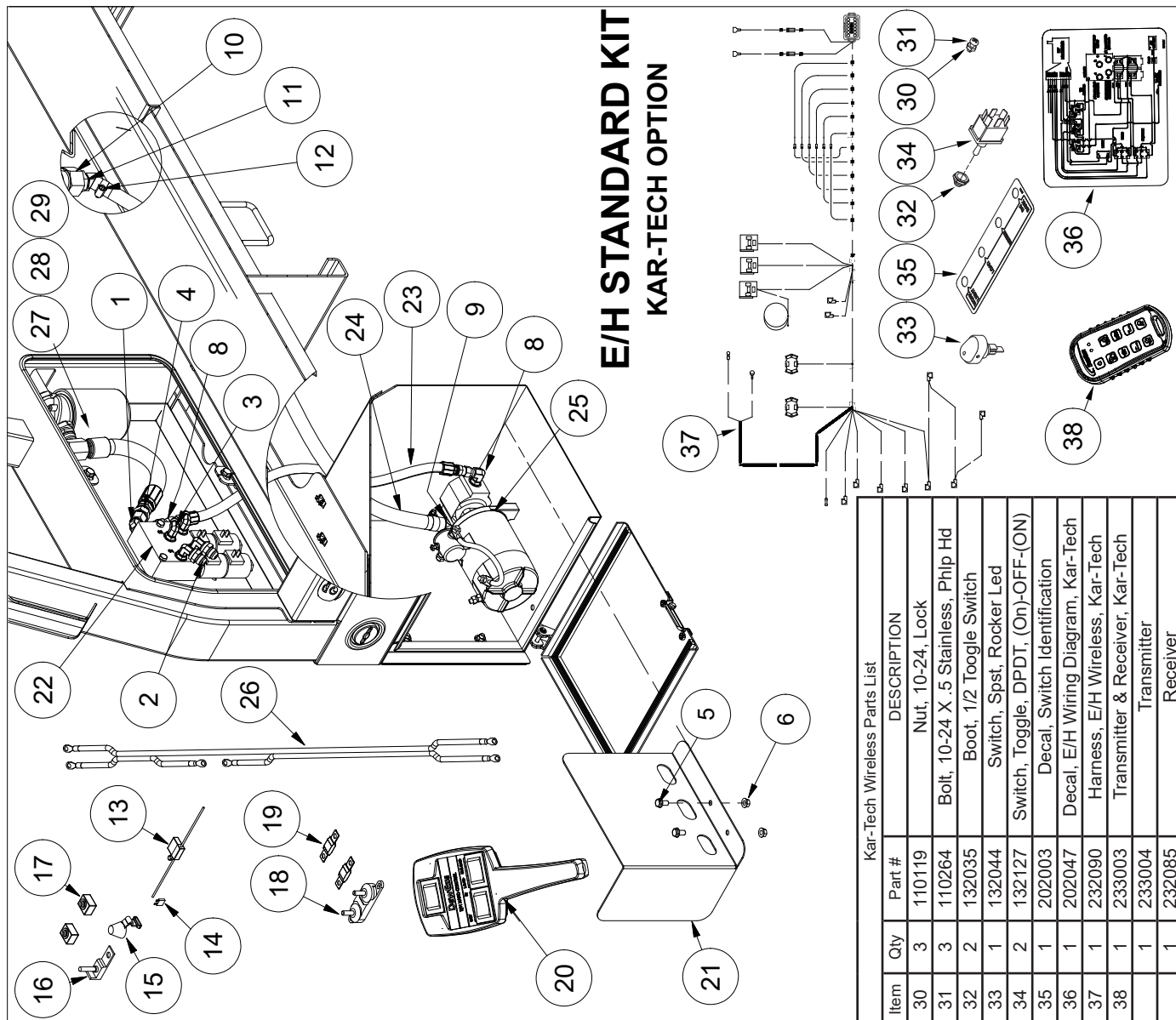
- 11) Attach suction hose and pressure hose to pump with adapters provided.
- 12) Attach suction hose to bottom of reservoir as indicated in diagram.
- 13) Attach black wire from hand control to negative terminal on solenoid.



- 14a) Attach 30-amp fuse holder to positive terminal on solenoid and then to red wire from hand control.
- 14b) Attach 30-amp fuse holder to positive terminal on battery, run wire thru switch on dash. Then to red wire on valve harness for wireless remote.
- 15) Run battery cables through hold in toolbox and attach to E/H motor as indicated (black cable to rear post).
- 16) Run battery cables along frame rail and attach black cable to negative terminal on battery.
- 17) Attach 200-amp fuse holder to positive battery terminal.
- 18) Insert 200-amp fuse.
- 19) Attach red cable from E/H on top of "ice cube" fuse. Install rubber cap.



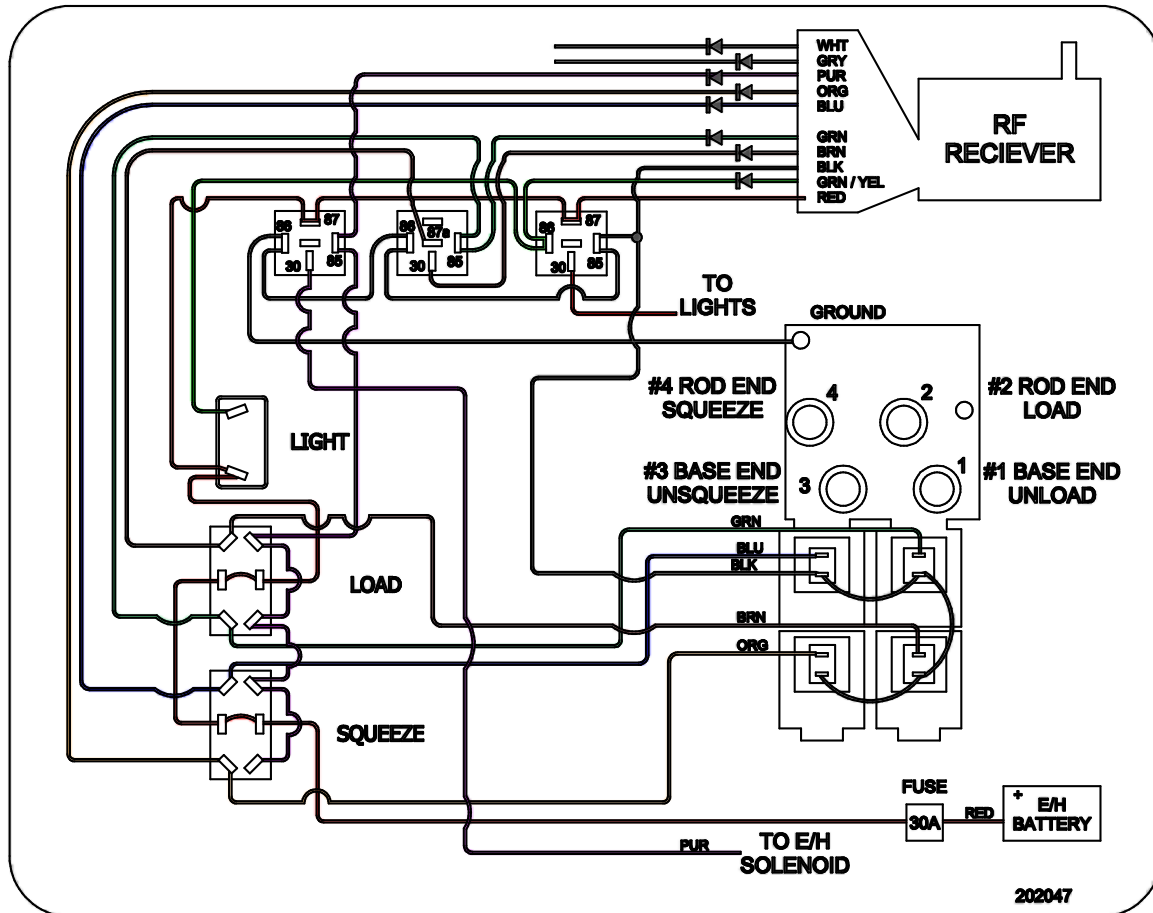
Parts List			DESCRIPTION	
Item	Qty	Part #		
1	1	120087	Adapter, 8mj-6mb45	
2	2	120142	Adapter, 6fj-8mj, Expander	
3	4	120222	Adapter, 6mj-6mb90	
4	1	120457	Adapter, 8fj-10mj	
5	1	210891	E/H Power Kit Flatbed	
6	4	110437	Bolt, 3/8-16 X 3/4, Wiz Flng Gr 5 Zinc	
7	2	110645	Nut, 3/8-16, Wiz Flng	
8	2	112136	Clamp, 3/4" T-Bolt	
9	2	120149	Adapter, 6mb-6fpx90	
10	1	120187	Adapter, 12hb-8mb90	
11	1	120544	Adapter, 20MB-12FB	
12	1	120545	Adapter, 12HB-12MB45	
13	2	520099	Clamp, Hose #12 .50"	
14	1	132001	Fuse Holder, Atc, 14 Ga, Mini	
15	1	132002	Fuse, Mini 30 Amp	
16	1	132092	Fuse Cover BUSS CFCOVER-1R	
17	1	132093	Fuse Holder BUSS CFBAR1-M8XSP	
18	2	132094	Fuse Cube, 200 AMP BUSS MRBF-200	
19	1	232001	(old) Fuse Block, AMG	
20	2	232002	(old) Fuse Blade, 200Amp	
21	1	150027	Hand Control & Cable Assy, E/H	
22	1	211353	Shield, E/H Manufactured	
23	1	220492	Valve E/H Flatbed Purchased	
24	2	210871	Cartridge	
25	4	820229	Coil, Spade	
26	1	220508	Hose .37 X 50.44 6mp/6mp	
27	1	220603	Hose .75 X 54	
28	1	230140	E/H Motor Pump/Unit, Standard Duty 12	
29	1	210884	Motor	
30	1	220651	Pump	
31	1	222006	Seal Kit, Pump	
32	1	232089	Solenoid, 3 Pole, Heavy Duty	
33	1	230119	Cable, Solenoid Ground	
34	1	230155	Battery Cable, 2ga Twin Lead, 186"	
35	1	110141	Nut, M8-1.25 Wiz Flng, Gr 8.8, Zinc	
36	2	110396	Bolt, 5/16-18 X 2.5 HhcsGr 5 Zinc	
37	2	110608	Nut, 5/16-18	
38	2	110674	Washer, 5/16 Lock, Zinc	
39	4	110753	Plug, 1/2 Button, Plastic, Fits 1/2" ID	
40	1	211387	Edge Molding, Rear Plate	
41	1	730008	Terminal, Butt Connector, 16-14	
42	1	730013	Terminal, Ring, 16-14, 5/16	
43	1	220691	RESERVOIR RETURN	
44	1	720041	FILTER HEAD	
45	1	720043	FILTER (WIX 51551)	



E/H STANDARD KIT KAR-TECH OPTION

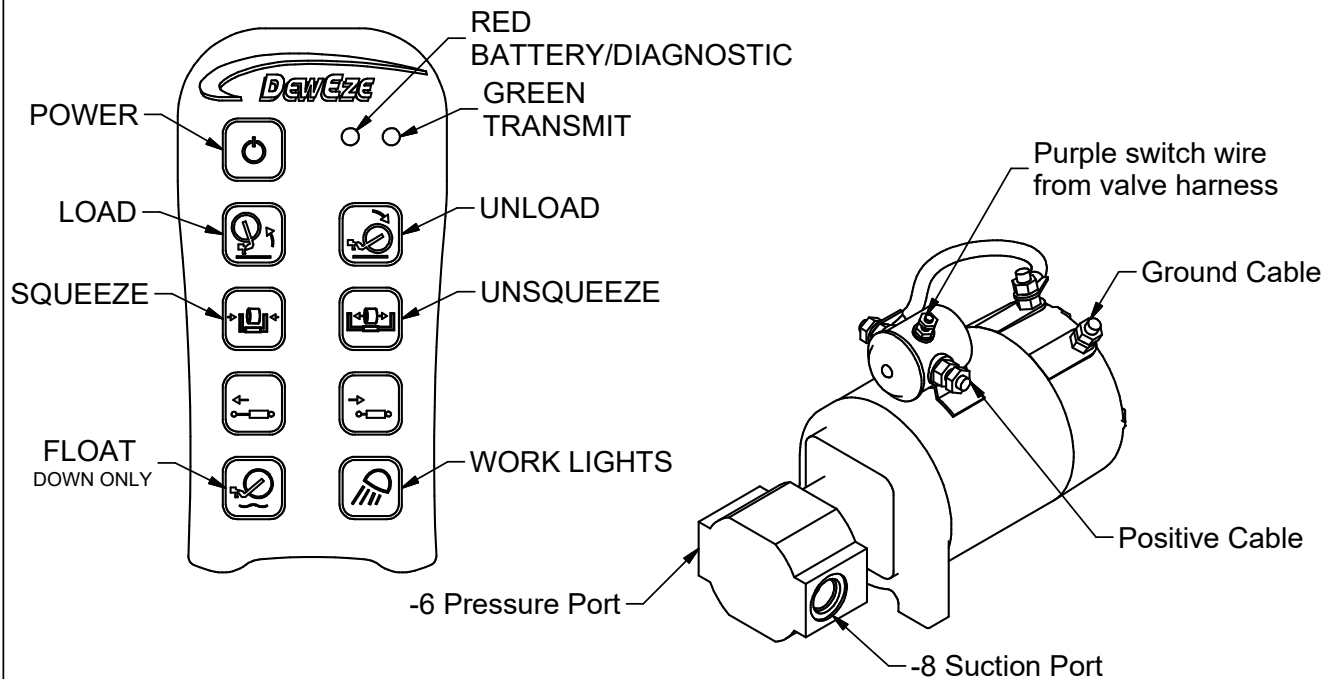
Kar-Tech Wireless Parts List				
Item	Qty	Part #	DESCRIPTION	
30	3	110119	Nut, 10-24, Lock	
31	3	110264	Bolt, 10-24 X .5 Stainless, Philp Hd	
32	2	132035	Boot, 1/2 Toggle Switch	
33	1	132044	Switch, Spst, Rocker Led	
34	2	132127	Switch, Toggle, DPDT, (On)-OFF-(ON)	
35	1	202003	Decal, Switch Identification	
36	1	202047	Decal, E/H Wiring Diagram, Kar-Tech	
37	1	232090	Harness, E/H Wireless, Kar-Tech	
38	1	233003	Transmitter & Receiver, Kar-Tech	
	1	233004	Transmitter	
	1	232085	Receiver	

E/H Wiring, Kar-Tech Remote



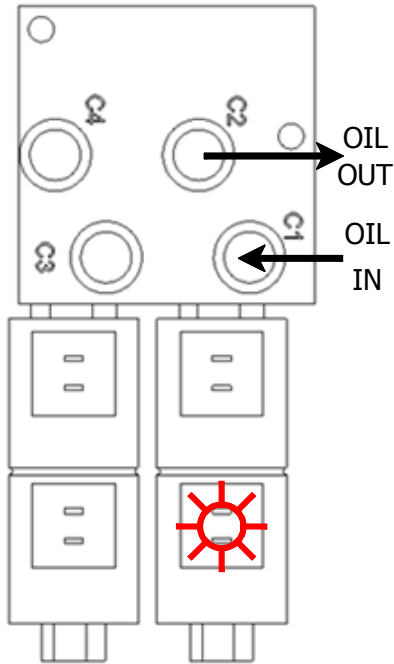
Decal Part# 202047

Harness Part# 232090

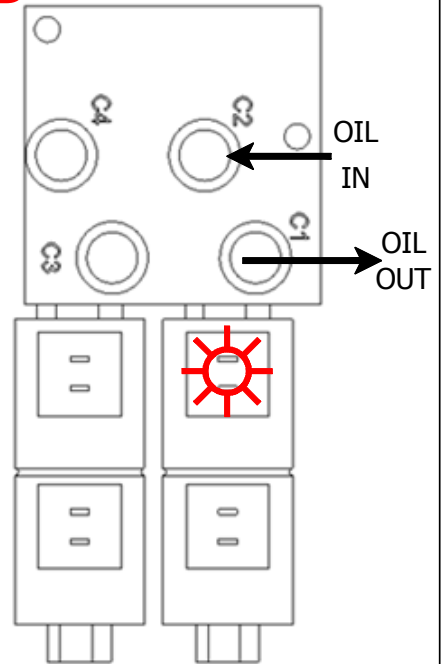


 SOLENOID FIRES

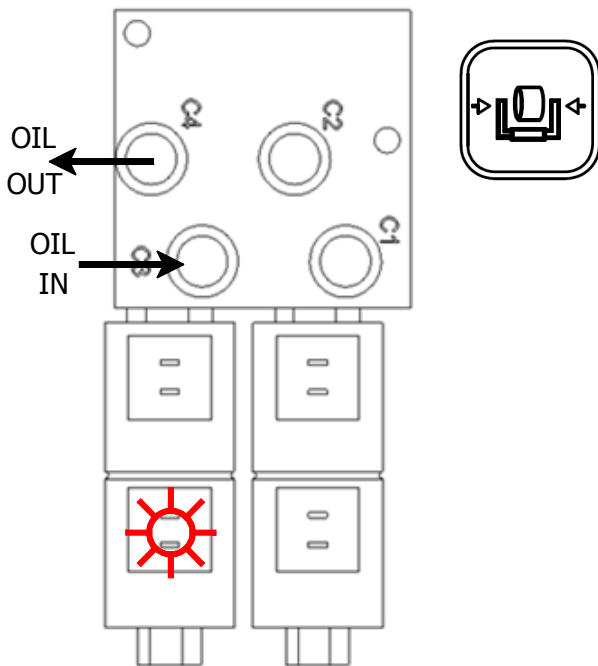
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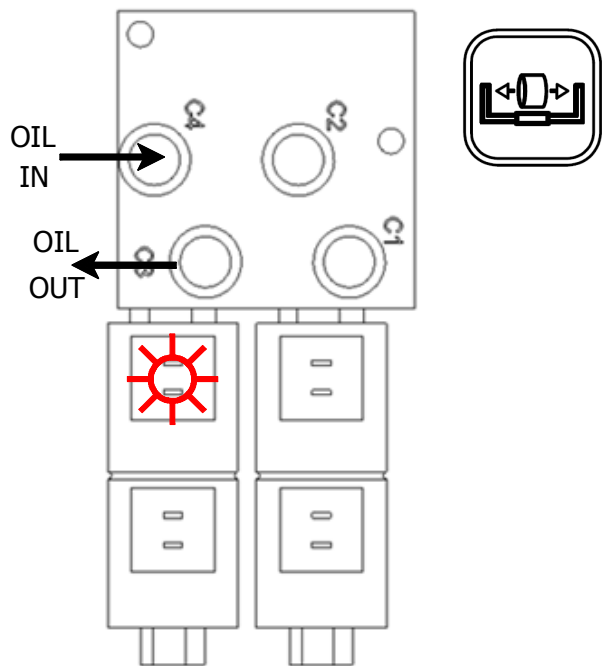
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SQUEEZE

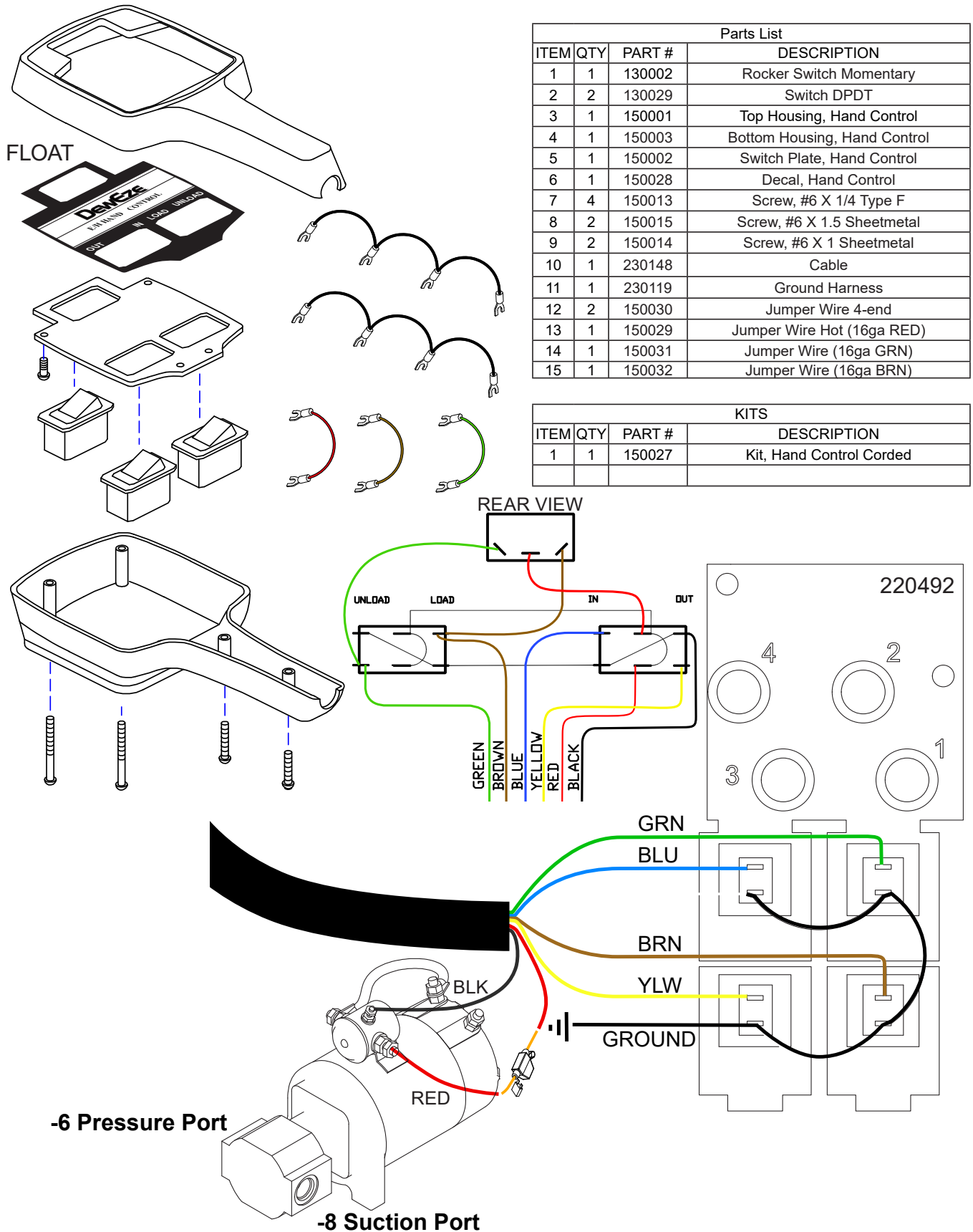


UNSQUEEZE

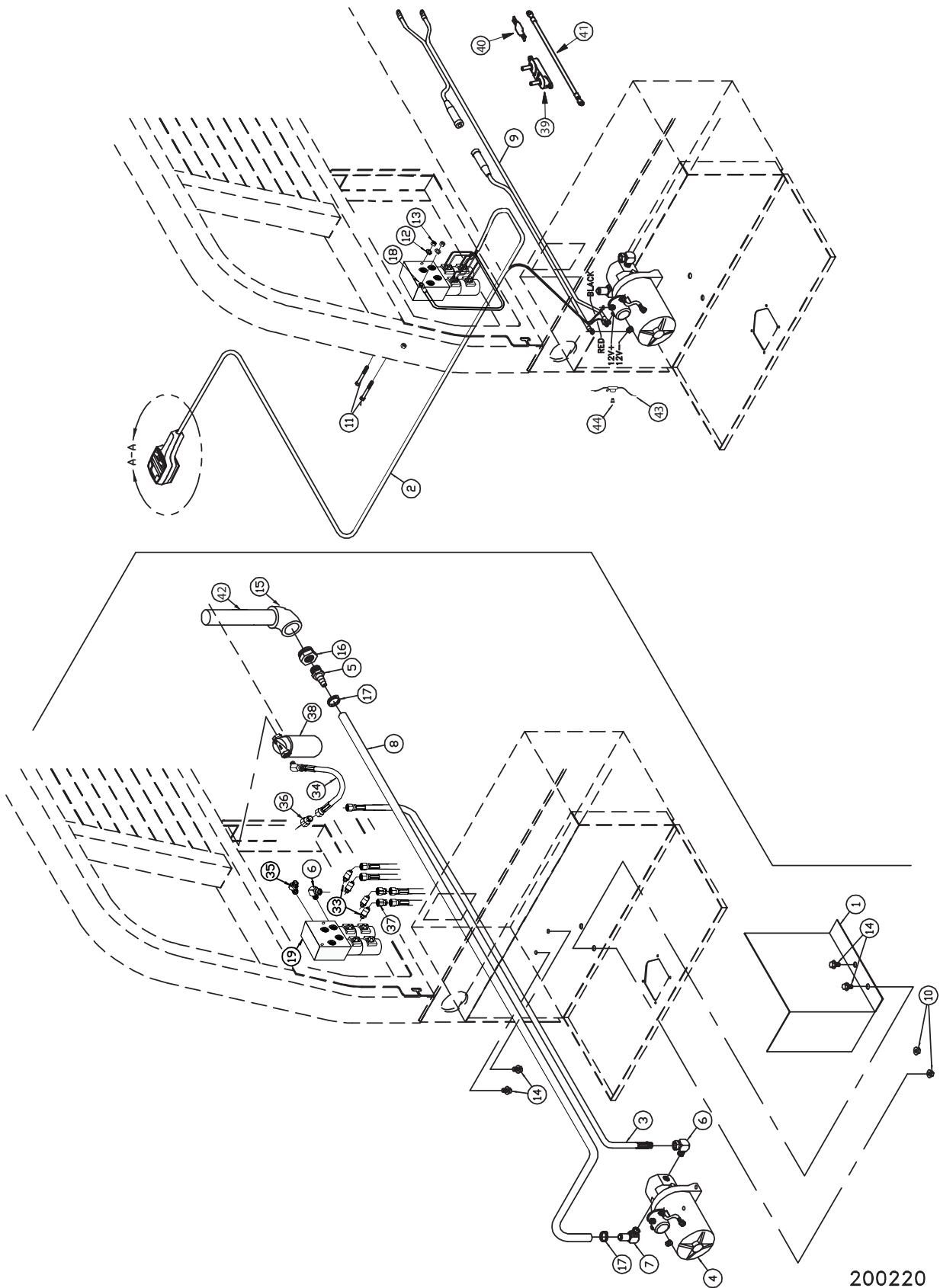


2/20/2015

CORDED: EH VALVE (STANDARD EH)



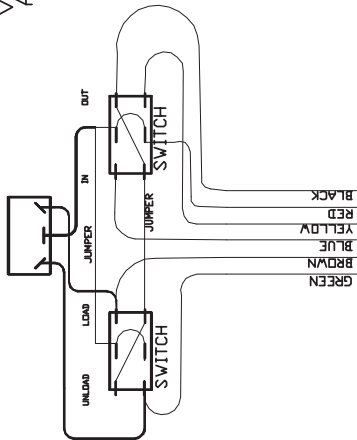
E/H HYDRAULIC & WIRING ASSEMBLY



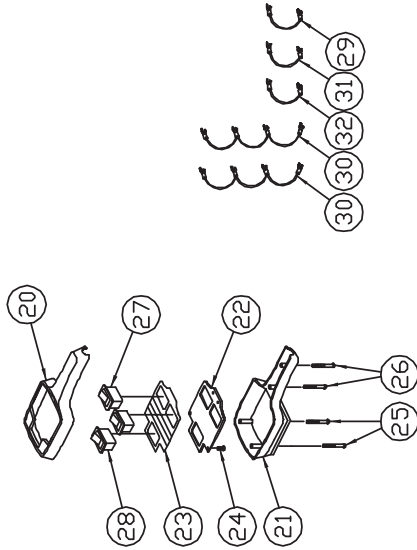
200220

E/H HYDRAULIC & WIRING ASSEMBLY

VIEW
A-A



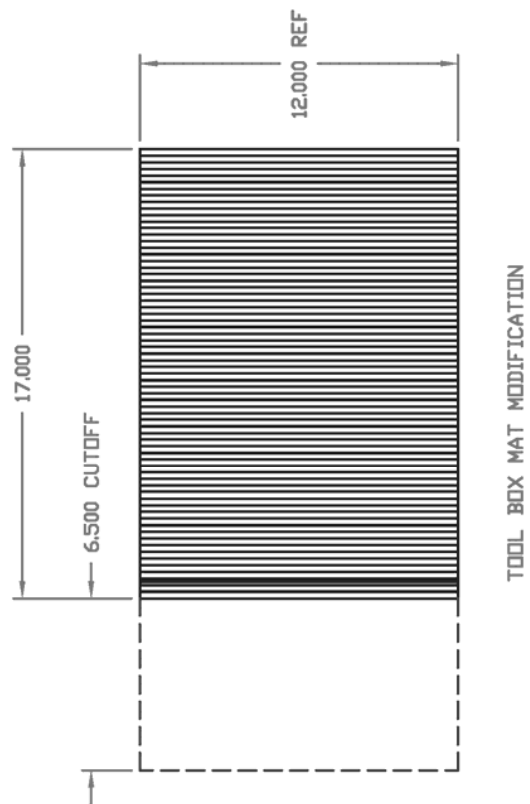
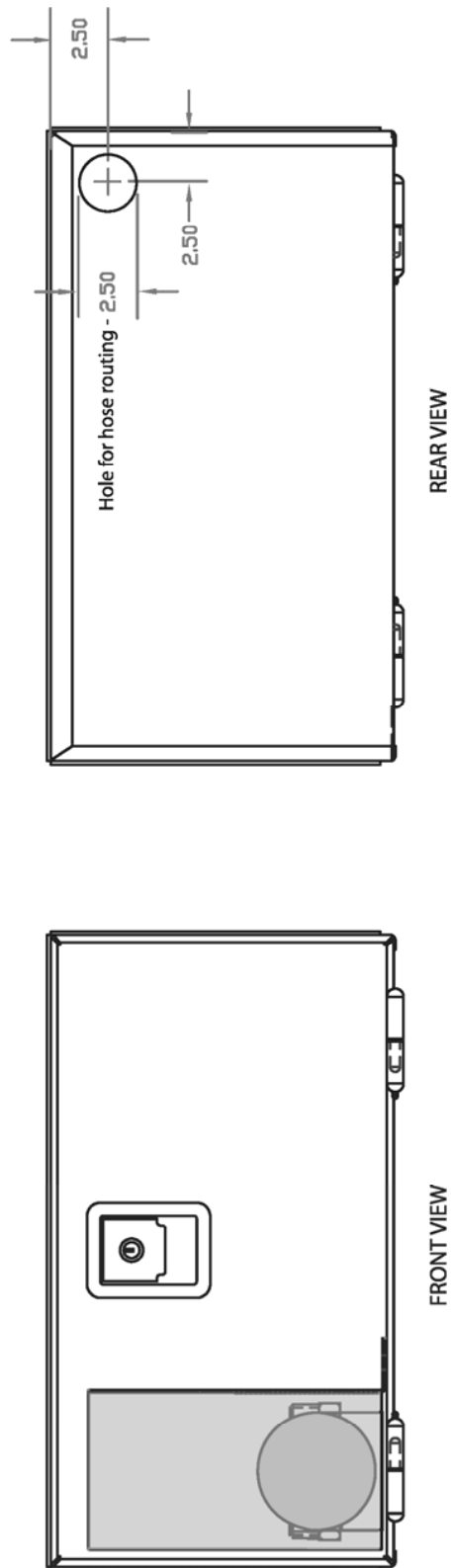
WIRING DIAGRAM
SWITCHES SHOWN FROM BOTTOM



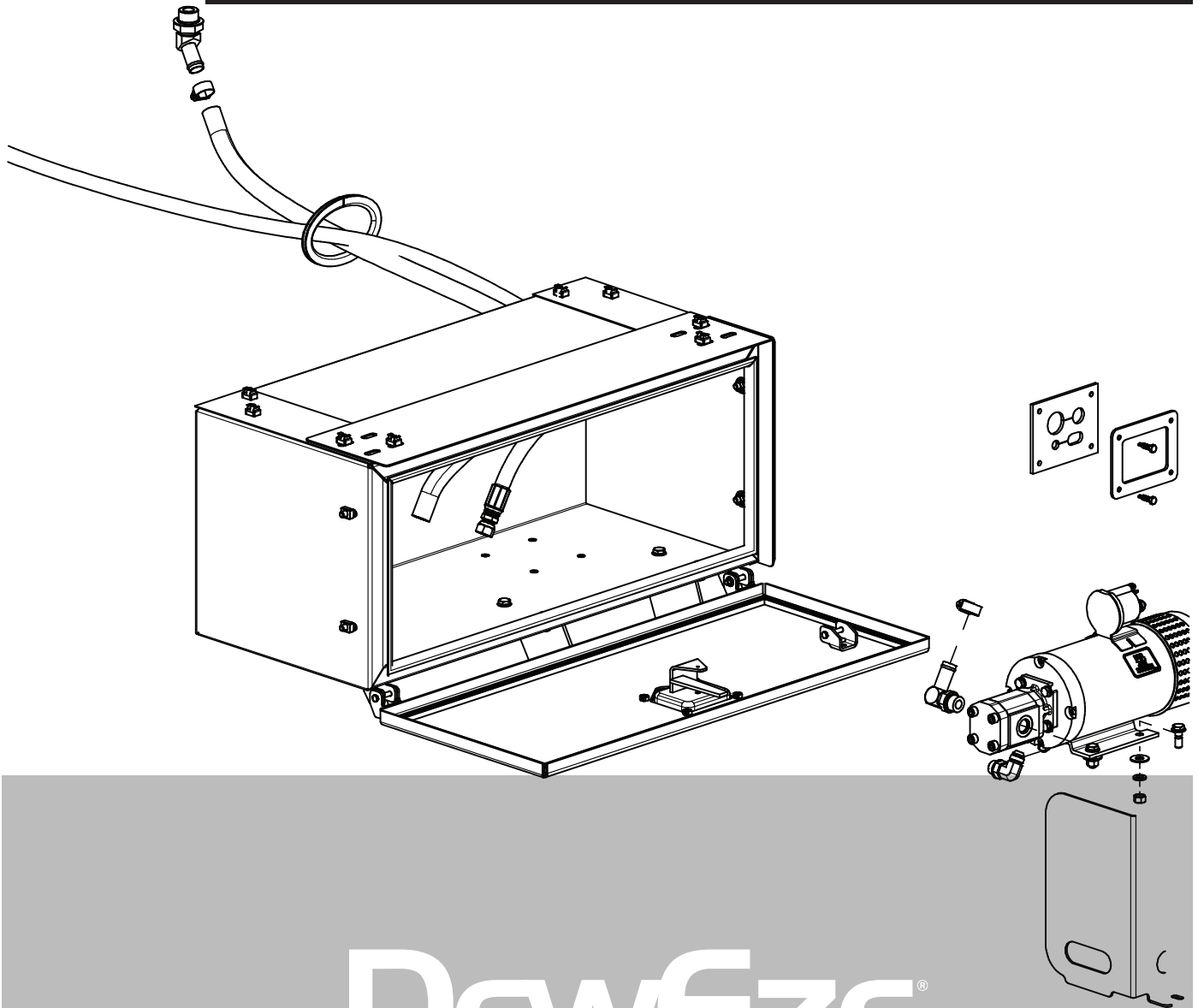
ITEM	PART NO.	DESCRIPTION	
1	211353	E/H SHIELD (1)	20
2	150027	HAND CONTROL & CABLE ASSY. (1)	21
3	230148	CABLE /6-WIRE JUMPER WIRES INCLUDED (1)	22
4	220508	HOSE ASSY. (1)	23
	230140	E/H MOTOR-PUMP UNIT (1)	24
	210884	MOTOR	25
	220651	PUMP	26
	222006	SEAL KIT, PUMP	27
5	530018	SOLENOID	28
6	120227	ADAPTER, 12BH-12MP (1)	29
7	120149	ADAPTER, 6MB-6FPX90 (2)	30
8	120187	ADAPTER, 12BH-8MB90 (1)	31
9	220603	HOSE, SUCTION .75*46.00 (1)	32
10	230144	BATTERY CABLE - E/H (1)	33
11	110645	NUT, 3/8-16, WIZ FLANGE (2)	34
12	110396	BOLT, 5/16-18 X 2.5 HHCS (2)	35
13	110674	WASHER, 5/16 LOCK (2)	36
14	110608	NUT, 5/16-18 (2)	37
15	110437	BOLT, 3/8-16 X .75, WIZ FLNG (4)	38
16	720158	FITTING, ELL 1.25 (1)	39
17	720071	FITTING, REDUCER 1-1/4 X3/4NPT	40
18	520099	HOSE CLAMP #12 (2)	41
19	230119	CABLE/SOLENOID GROUND (1)	42
	220492	VALVE (1)	43
			44
	150001	TOP HOUSING (1)	
	150003	BOTTOM HOUSING (1)	
	150002	SWITCH PLATE (1)	
	150004	DECAL (1)	
	150013	SCREW (4)	
	150015	SCREW (2)	
	150014	SCREW (2)	
	130029	SWITCH DPDT (2)	
	130002	MOMENTARY SWITCH (1)	
	150029	JUMPER WIRE/HOT (1)	
	150030	JUMPER WIRE/HOT (2)	
	150031	JUMPER WIRE/GRN. (1)	
	150032	JUMPER WIRE/BRN. (1)	
	120222	ADAPTER, 6MJ-6MB90 (4)	
	220691	HOSE, RES. 75*12.25*12-10FIX (1)	
	120087	ADAPTER, 6MB-8MJ45 (1)	
	120457	ADAPTER, 8FJ-10MJ (1)	
	120142	ADAPTER, 6FJ-8MJ, EXPANDER (2)	
	720041	FILTER HEAD (1)	
	720043	FILTER (WIX 51551) (1)	
	232001	FUSE BLOCK, AMG (1)	
	232002	FUSE, 200 AMP (1)	
	230151	BATTERY CABLE, 12" (1)	
	200083	FITTING, NIPPLE, 1-1/4 X 6 (1)	
	132001	FUSE HOLDER, ATC, 14 GA, MINI (1)	
	132002	FUSE, MINI 30 AMP (1)	

200220

DEWEZE E/H KIT - 30" TOOLBOX MODIFICATION



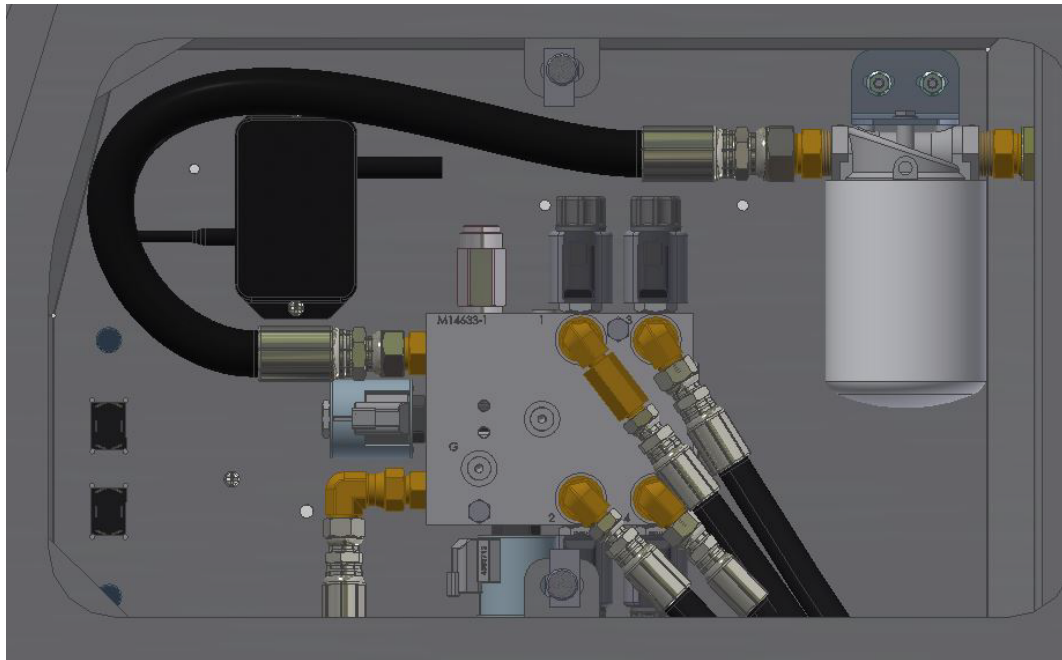
HEAVY DUTY E/H SYSTEM



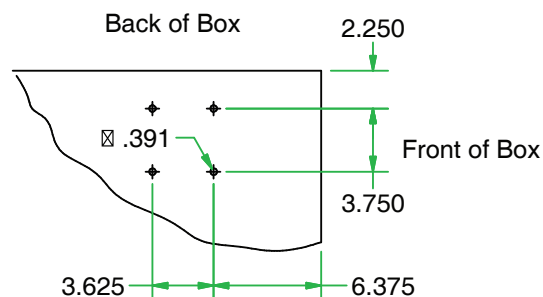
DewEze[®]
H Y D R A U L I C S

E / H KIT INSTALLATION INSTRUCTIONS

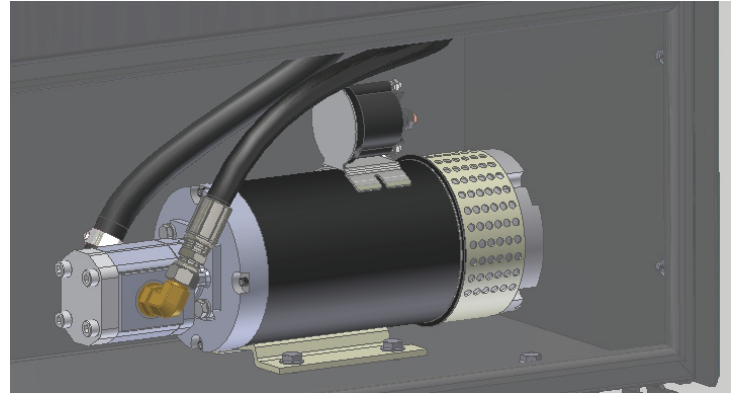
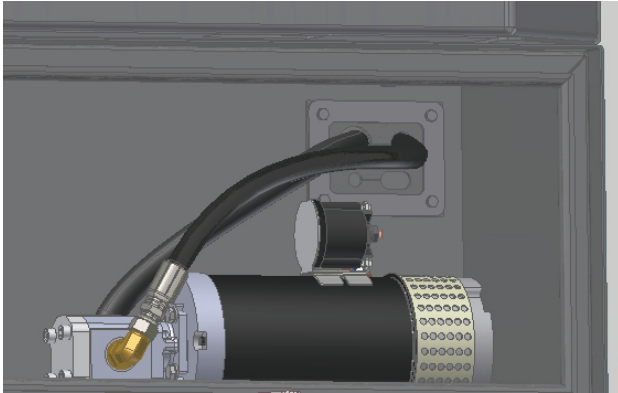
* Read all instructions first.



1. Attach adapters to valve and install inside cavity on headache rack.
2. Attach valve harness per diagram on decal.
3. Attach return hose to valve and filter housing. Attach pressure hose from pump.
4. Attach 1/2" hoses from squeeze cylinder to valve ports #3 & #4.
5. Attach 3/8" hoses from lift cylinder to valve ports #1 & #2.
6. Use cover plate to locate cutout in right side toolbox.
7. Use access cover or edge molding to protect hoses.
8. Drill holes for 3/8" bolts as indicated and bolt pump to inside of toolbox.



9. Attach purple switch wire from valve harness.
10. Attach 30-amp fuse holder to positive terminal on battery, run wire through switch on dash and then to the red wire on the harness.

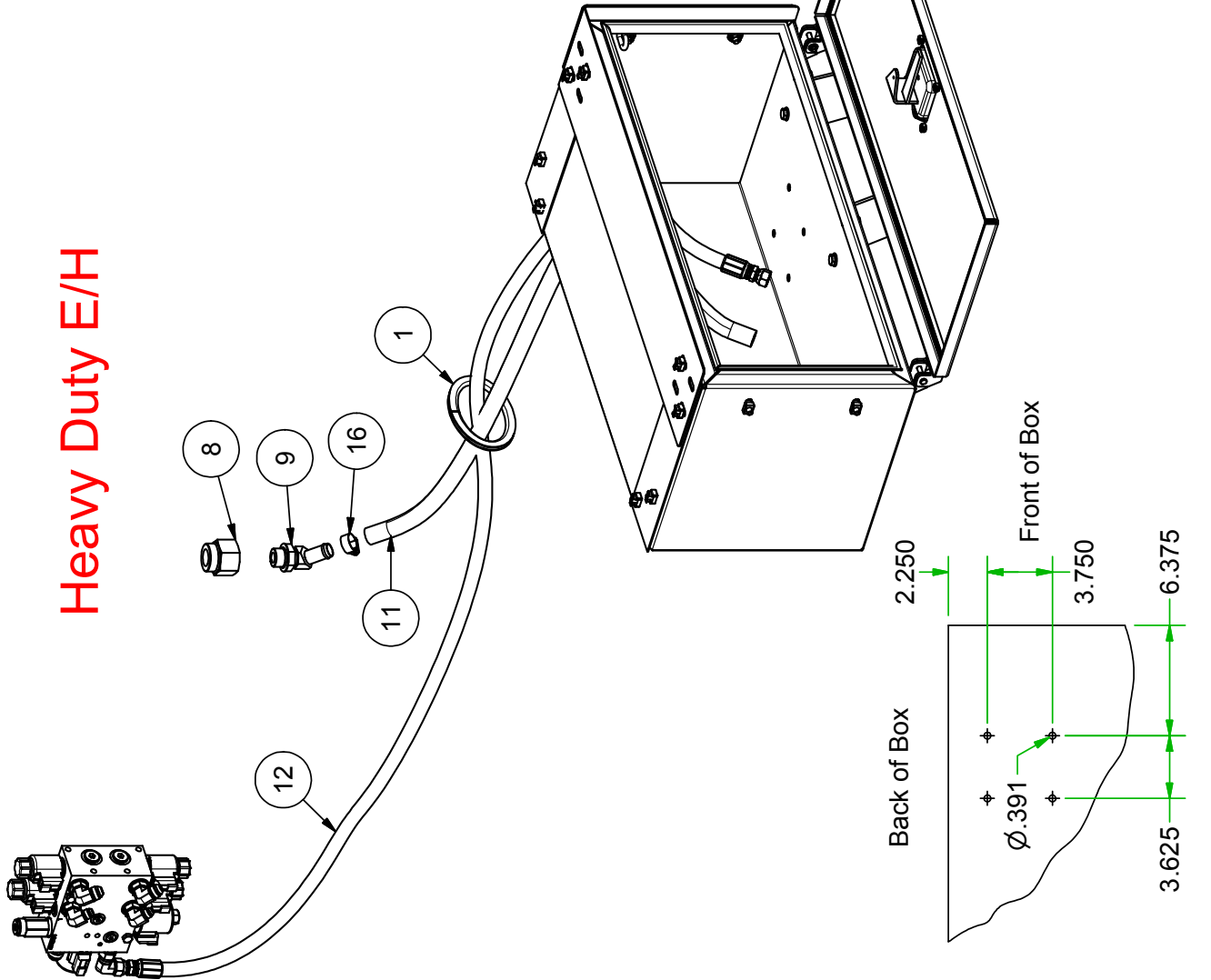


11. Attach suction hose and pressure hose to pump with adapters provided.
12. Attach suction hose to bottom of reservoir.
13. Run battery cables through hole in toolbox and attach to E/H motor as indicated.
14. Run battery cables along frame rail and attach black cable to negative terminal on battery.
15. Attach 200-amp fuse holder to positive battery terminal.
16. Insert 200-amp fuse.
17. Attach red cable from E/H on top of “ice cube” fuse. Install rubber cap.

If installing the 735021 Switch Unit — Read the E/H Hybrid specific instructions first.

Heavy Duty E/H

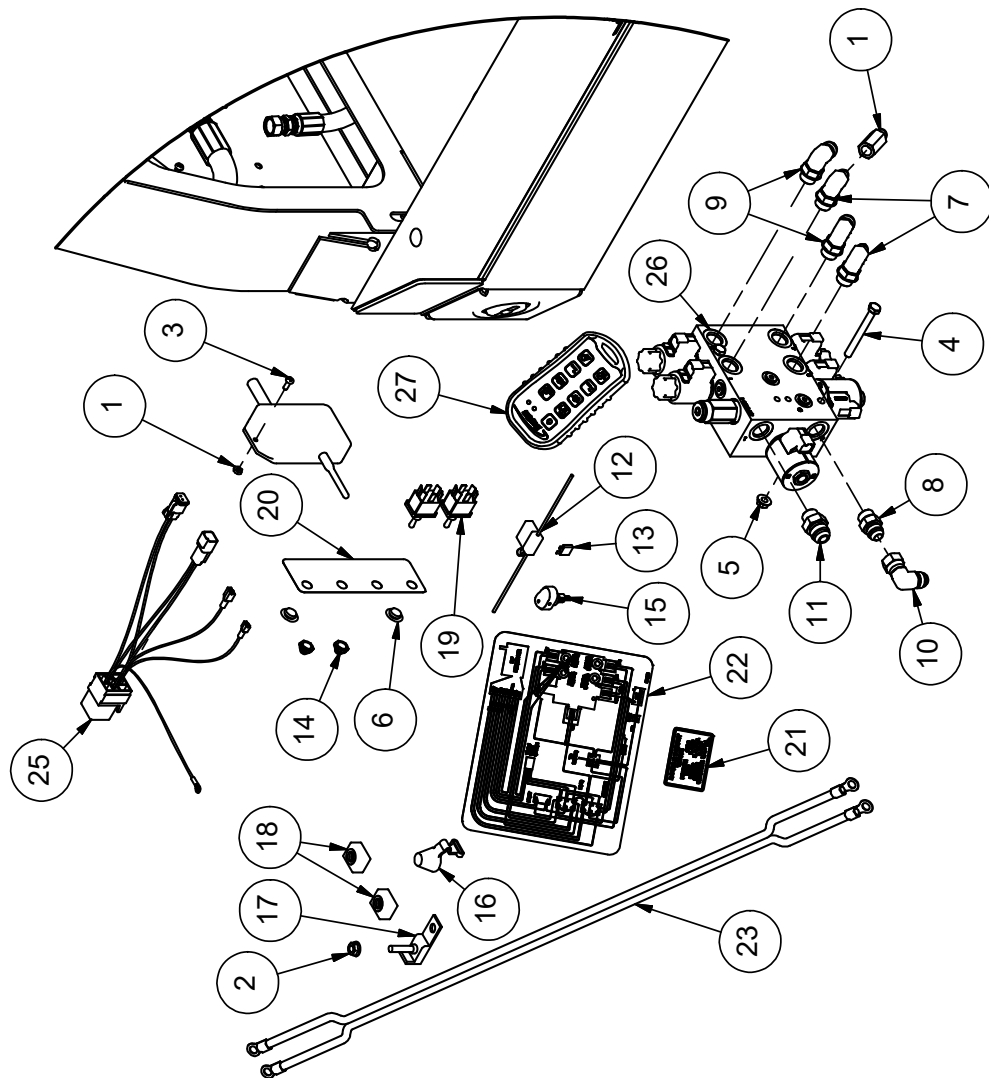
Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	21 in	100365	EDGE TRIM
2	4	110440	BOLT, 3/8-16 X 1, WIZ FLANGE
3	4	110672	WASHER, 3/8" LOCK
4	4	110676	WASHER, 3/8" FLAT STANDARD
5	4	110826	NUT, 3/8-16 GR 5
6	1	120184	ADAPTER, 12BH-10MB90
7	1	120288	ADAPTER, 8MJ-8MB90
8	1	120544	ADAPTER, 20MB-12FOR
9	1	120545	ADAPTER, 12BH-12MB 45°
10	1	211849	ACCESS COVER FRAME
11	1	220603	HOSE, SUCTION, .75 X 54
12	1	220738	Hose, Pressure HD E/H
13	1	230159	E/h Motor Pump/unit, Heavy Duty 12V
	1	232102	Strap, Motor-Solenoid Connecting
	1	232103	Solenoid, 4 Post, 12VDC Contactor
14	1	260400	Shield, HD, E/H
15	1	260401	Access Cover, HD E/H
16	2	520099	CLAMP, HOSE #12 .75"
17	4	710586	SCREW, 1/4 X 1 TEK SELF-TAP



11/9/2016

Heavy Duty E/H, W/Remote Part# 205115			
ITEM	QTY	PART #	DESCRIPTION
1	3	110119	NUT, 10-24 LOCK
2	1	110141	NUT, M8 X 1.25 WIZFLANGE
3	3	110264	BOLT, 10-24 X .5 STAINLESS, PHILLIPS
4	2	110538	BOLT, 5/16-18 X 3.0
5	2	110606	NUT, 5/16-18 WIZ FLANGE
6	2	110753	PLUG, 1/2" BUTTON PLASTIC
7	2	120134	ADAPTER, 6MJ-8MB90
8	1	120277	ADAPTER, 8MJ-8MB
9	2	120288	ADAPTER, 8MJ-8MB90
10	1	120368	ADAPTER, 8MJ-8FJX90
11	1	120493	ADAPTER, 10MJ-8MB
12	1	132001	FUSE HOLDER, ATC, 14 GA., MINI
13	1	132002	FUSE, MINI 30 AMP
14	2	132035	SWITCH BOOT
15	1	132044	Switch, Spst, Rocker Led
16	1	132092	FUSE COVER, BUSS CFCOVER-1R
17	1	132093	FUSE HOLDER, BUSS CFBAR1-M8XSP
18	2	132094	FUSE 200 AMP, BUSS MRBF-200
19	2	132127	Switch, Toggle, DPDT, (On)-OFF-(ON)
20	1	202003	DECAL, SWITCH IDENTIFICATION
21	1	202052	Decal, Double Poppet Valve
22	1	202053	Decal, Wiring Diagram, Double Poppet Deutsch
23	1	230155	BATTERY CABLE, 2GA TWIN LEAD, 186"
24	1	232098	Harness, Flatbed, Double Poppet Deutsch
25	1	232115	Harness, Flatbed Valve, E/H Control
26	1	223044	Flatbed Valve, Small, Monoblock Ver II
27	1	233003	Transmitter & Receiver, Kar-Tech

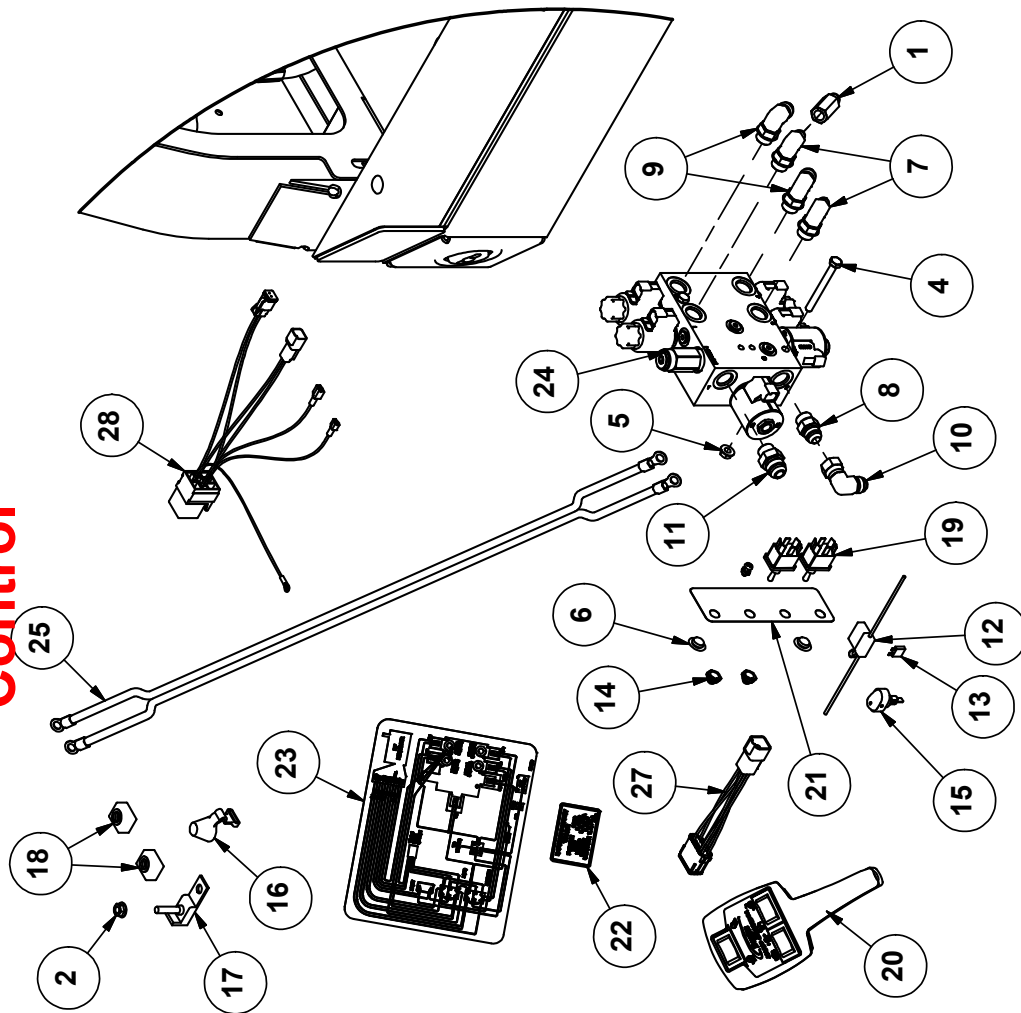
Heavy Duty E/H Kit W/ Remote



Heavy Duty E/H, W/Hand Control Part# 205116

ITEM	QTY	PART #	DESCRIPTION
1	3	110119	NUT, 10-24 LOCK
2	1	110141	NUT, M8 X 1.25 WIZFLANGE
3	3	110264	BOLT, 10-24 X .5 STAINLESS, PHILLIPS
4	2	110538	BOLT, 5/16-18 X 3.0
5	2	110606	NUT, 5/16-18 WIZ FLANGE
6	2	110753	PLUG, 1/2" BUTTON PLASTIC
7	2	120134	ADAPTER, 6MJ-8MB90
8	1	120277	ADAPTER, 8MJ-8MB
9	2	120288	ADAPTER, 8MJ-8MB90
10	1	120368	ADAPTER, 8MJ-8FJX90
11	1	120493	ADAPTER, 10MJ-8MB
12	1	132001	FUSE HOLDER, ATC, 14 GA., MINI
13	1	132002	FUSE, MINI 30 AMP
14	2	132035	SWITCH BOOT
15	1	132044	Switch, Spst, Rocker Led
16	1	132092	FUSE COVER, BUSS CFCOVER-1R
17	1	132093	FUSE HOLDER, BUSS CFBAR1-M8XSP
18	2	132094	FUSE 200 AMP, BUSS MRBF-200
19	2	132127	Switch, Toggle, DPDT, (On)-OFF-(ON)
20	1	150044	Hand Control & Cable Assy, 2 Bank
21	1	202003	DECAL, SWITCH IDENTIFICATION
22	1	202052	Decal, Double Poppet Valve
23	1	202053	Decal, Wiring Diagram, Double Poppet Deutsch
24	1	223044	Flatbed Valve, Small, Monoblock Ver II
25	1	230155	BATTERY CABLE, 2GA TWIN LEAD, 186"
26	1	232098	Harness, Flatbed, Double Poppet Deutsch
27	1	232105	Harness, Adapter 2 Bank, Hand Control
28	1	232115	Harness, Flatbed Valve, E/H Control

Heavy Duty E/H Kit W/ Hand Control

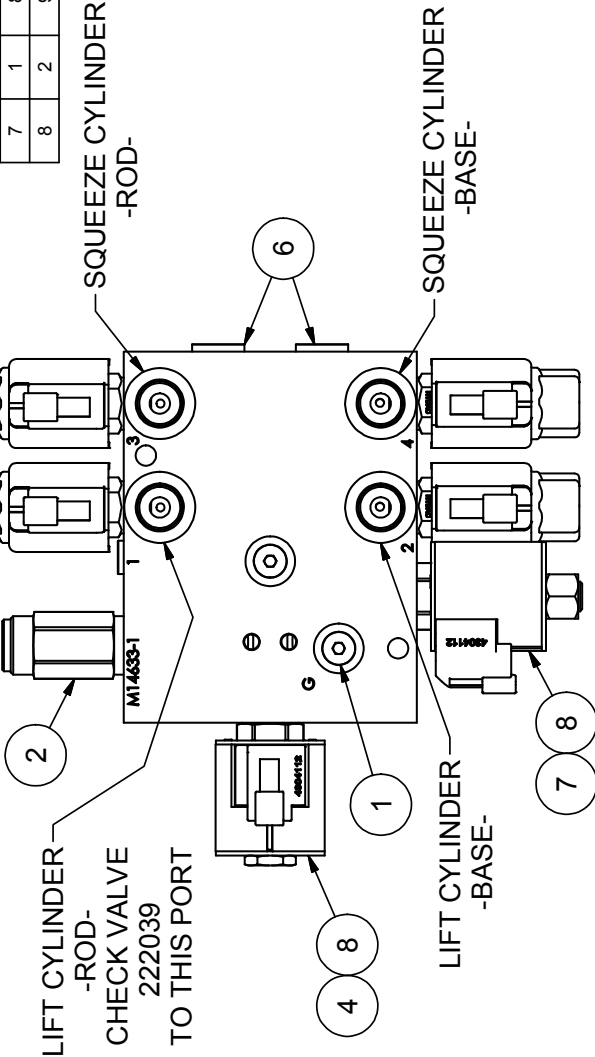


11/9/2016

Flatbed Valve
-08 Hydac Deutsch
Service Parts

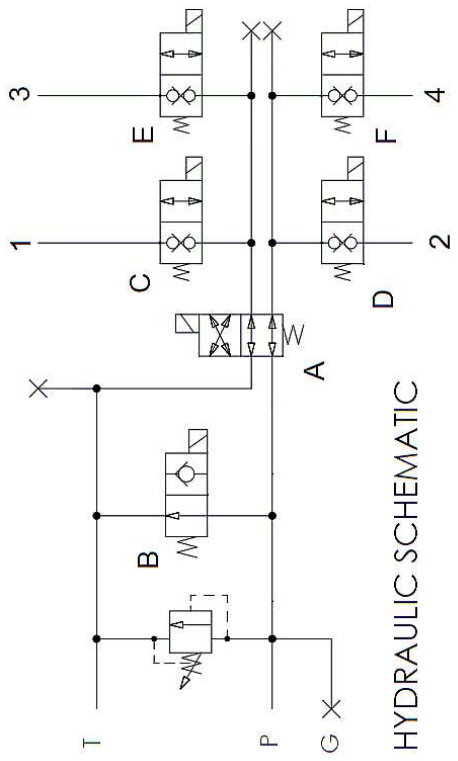
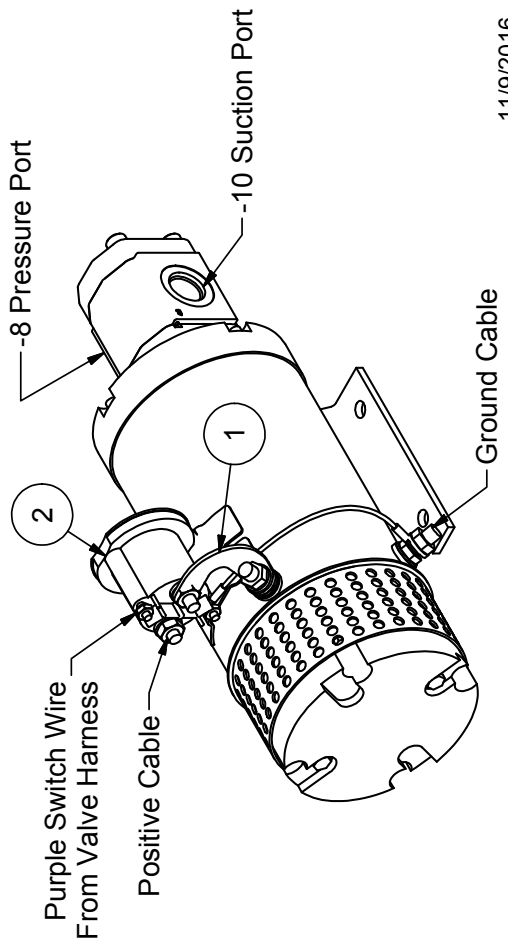
Flatbed Valve, Small, Hydac Deutsch P/N 223044

ITEM	QTY	PART #	DESCRIPTION
1	3	120062	O-Ring Plug, #4 7/16-20
2	1	222004	Valve, Pressure Relief
3	4	222010	Cartridge, #8 HYDAC Double Poppet
4	1	222045	#10 SOLENOID, 2 POSITION 4 WAY
5	4	222059	Coil, #8 Hydac, DT04-2P Suppressed
6	2	720164	O-Ring Plug, #8 3/4-16
7	1	820232	Spool, #10 Valve
8	2	922119	Coil, #10 Hydraforce, DT04-2P Suppressed

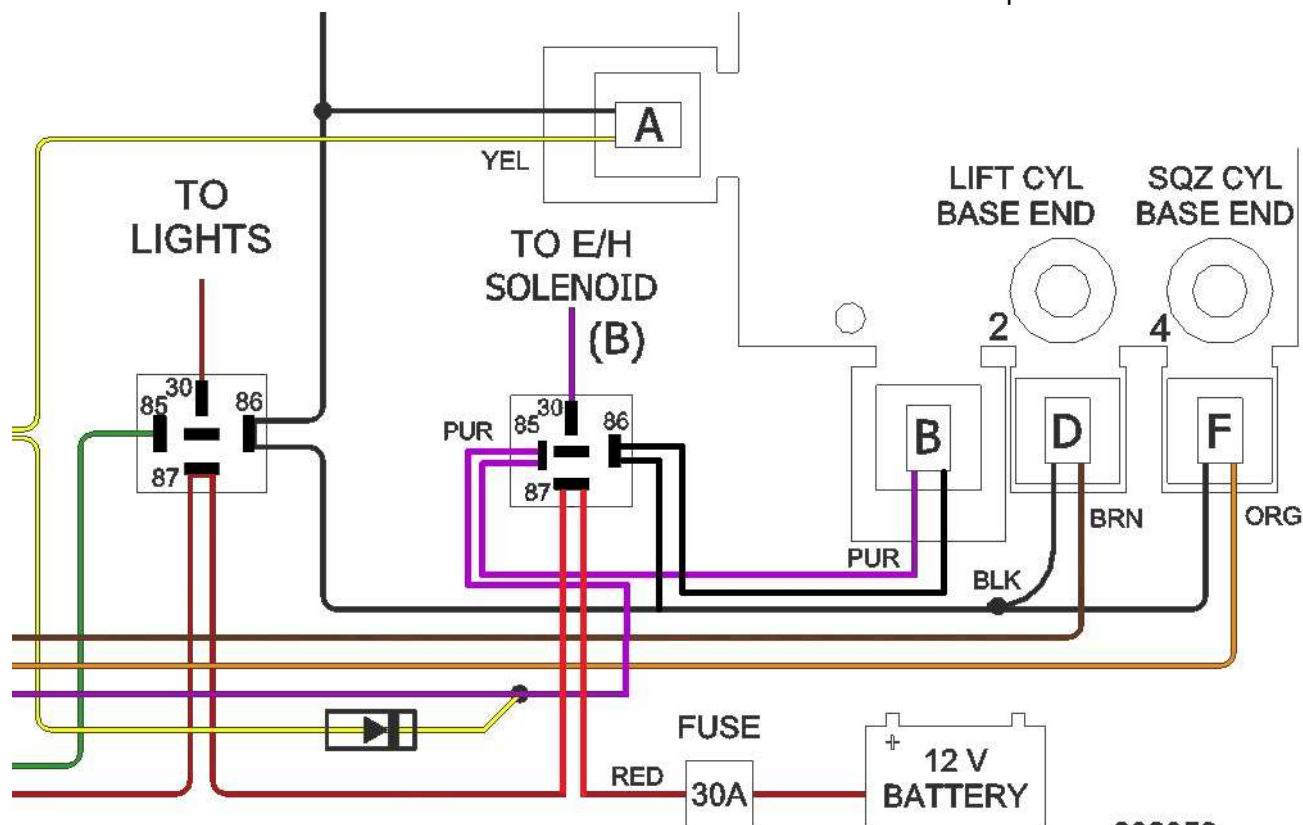
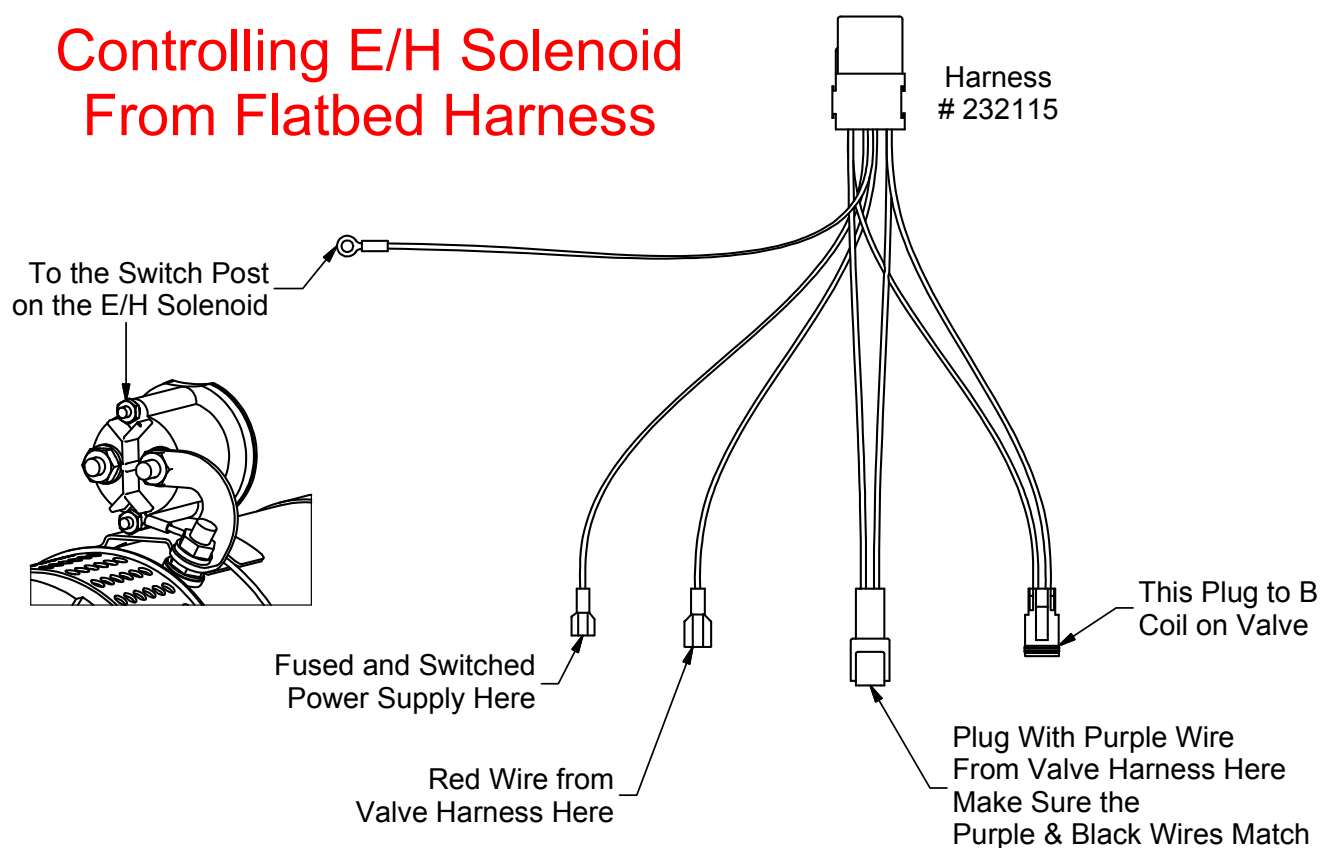


Heavy Duty E/H
Motor & Pump

ITEM	QTY	PART #	DESCRIPTION
1	1	232102	Strap, Motor-Solenoid Connecting
2	1	232103	Solenoid, 4 Post, 12VDC Contactor



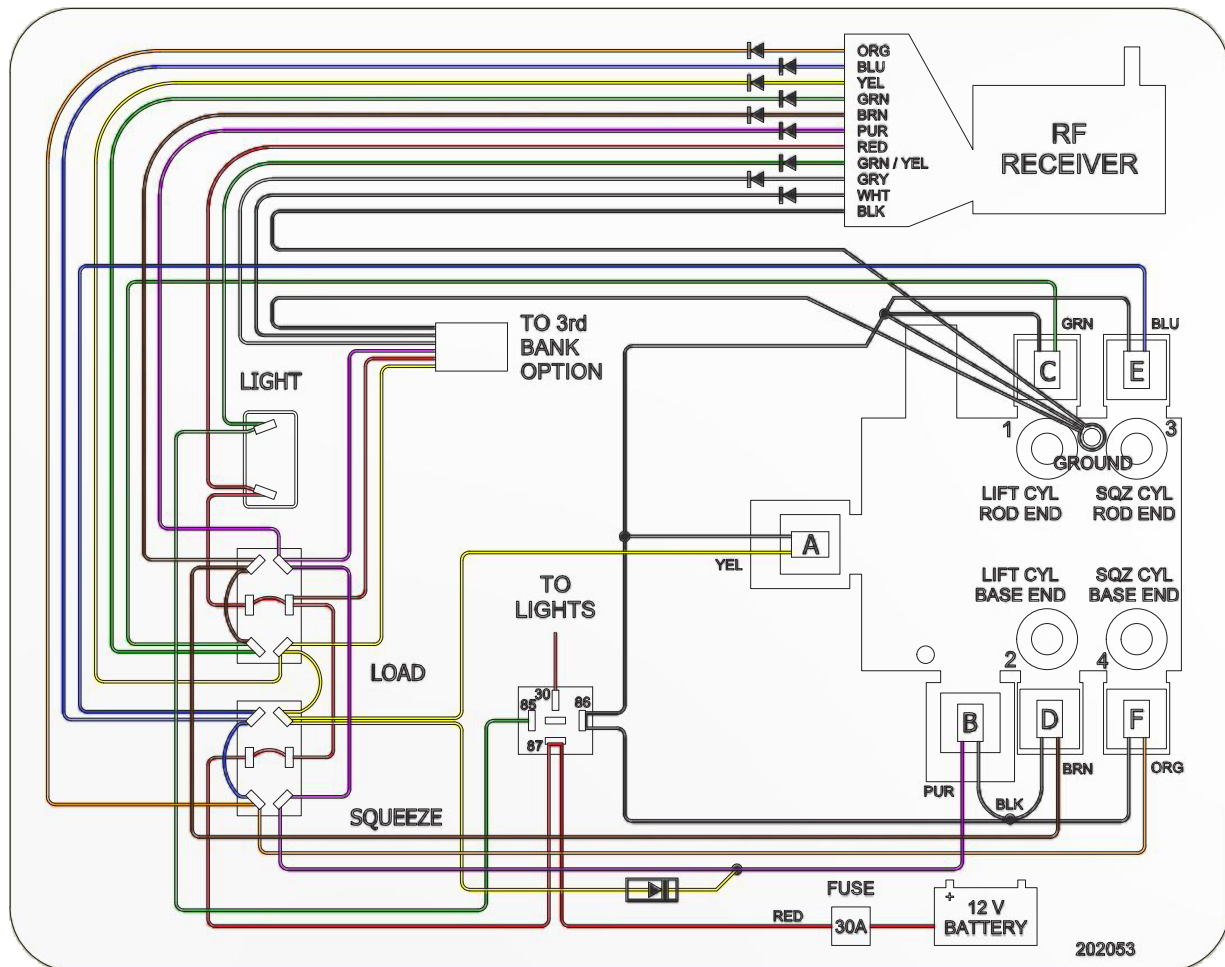
Controlling E/H Solenoid From Flatbed Harness



202053

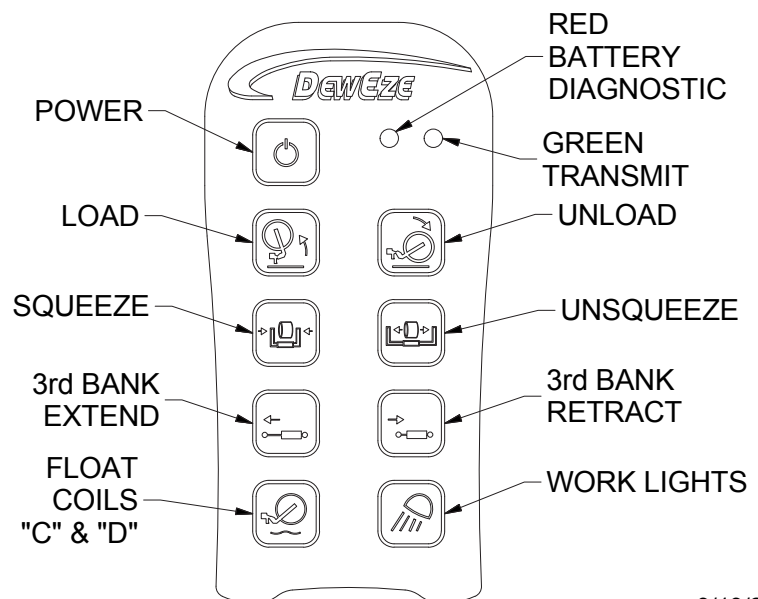
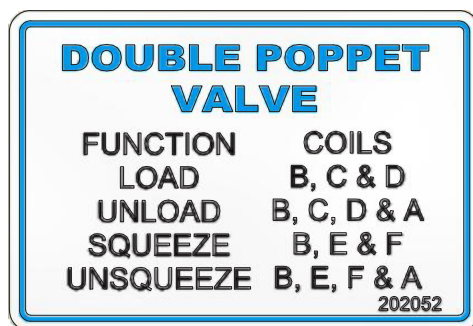
11/9/2016

Gen 3 Double Poppet, Deutsch



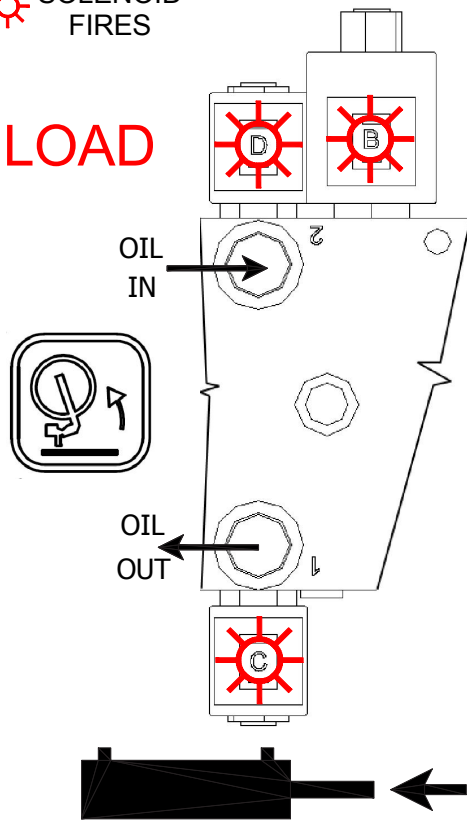
Decal Part# 202053

Harness Part# 232098

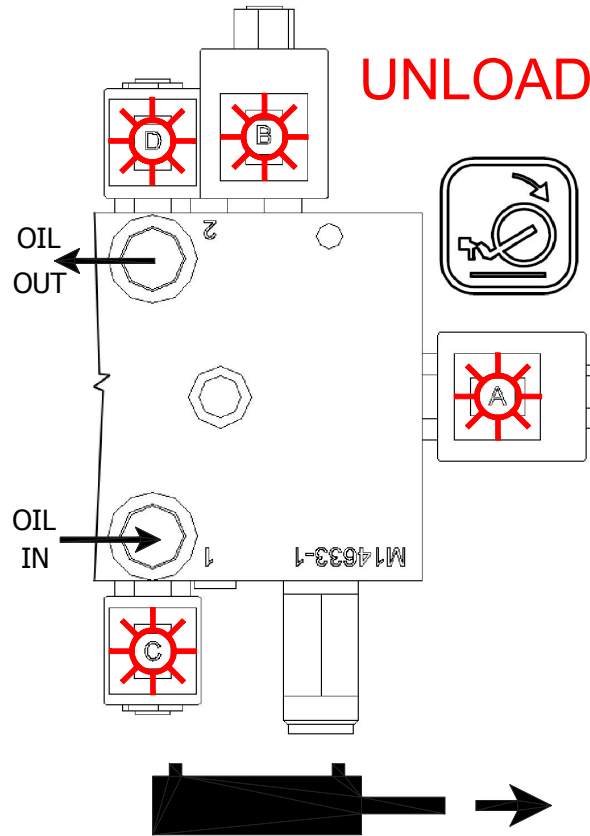


 SOLENOID FIRES

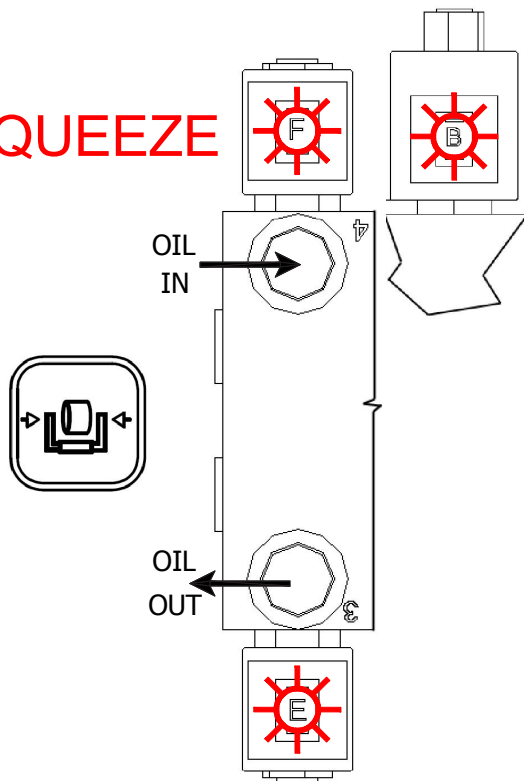
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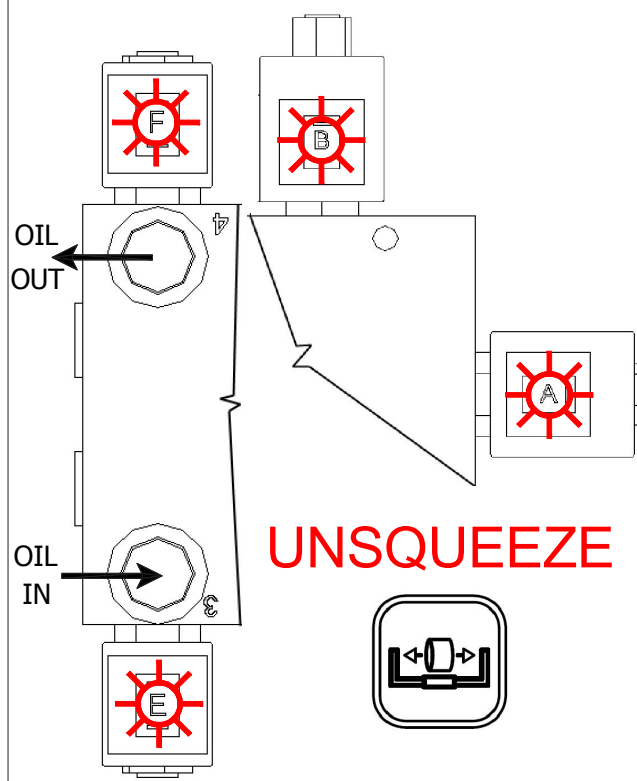
UNLOAD



SQUEEZE



UNSQUEEZE



NOTES

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