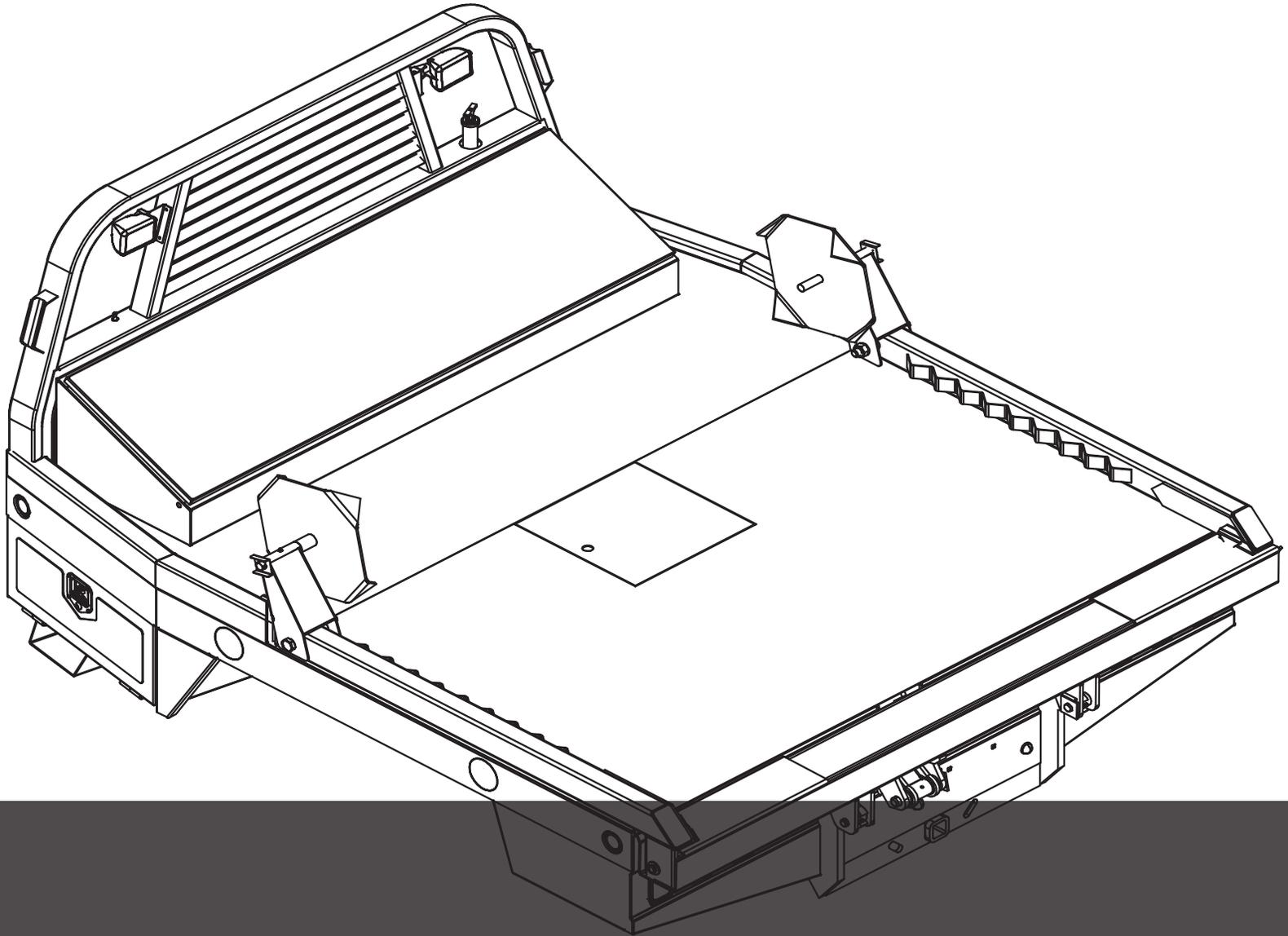


# 400/500 SERIES

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**DeweZe**<sup>®</sup>



**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.**

151 E. HWY. 160 Harper, KS 67058  
(620) 896-7381 • Fax (620) 896-7129

**Toll Free** 800-835-1042

**Email** [info@deweze.com](mailto:info@deweze.com)

**Website** [www.deweze.com](http://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)<br>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)  |

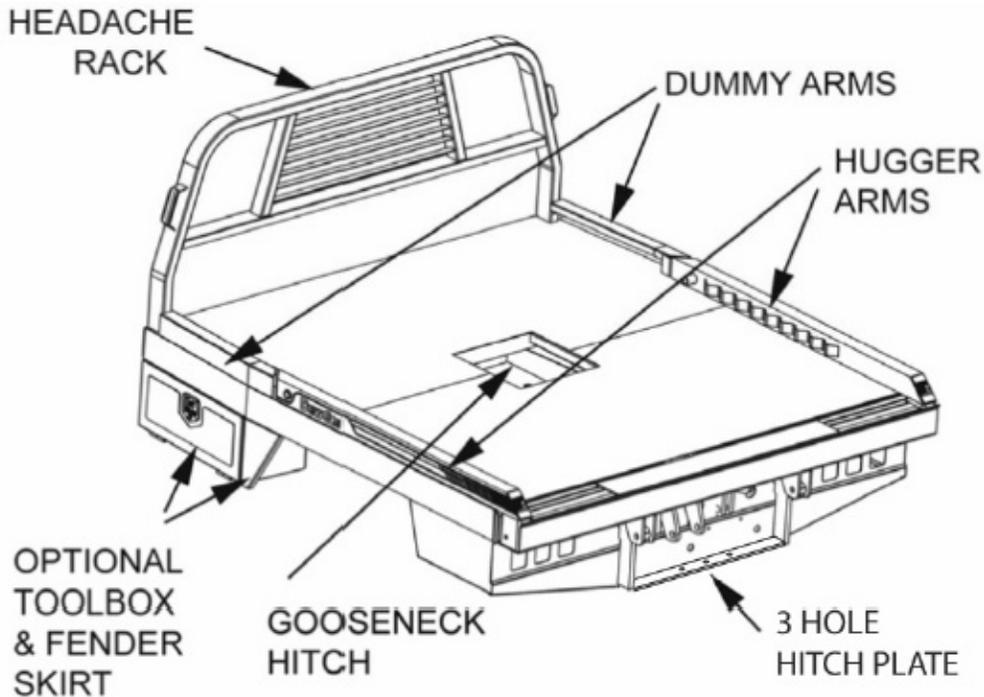
\*Cylinders used for extendible arm are optional.

## 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.



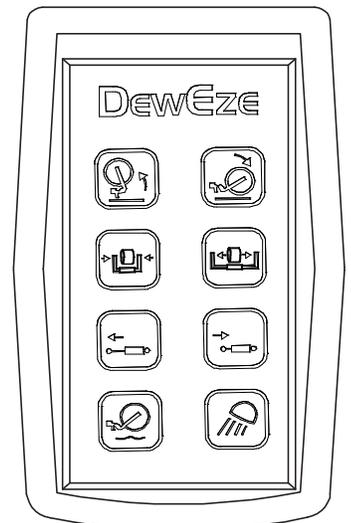
## **SAFETY WARNING!**

**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.

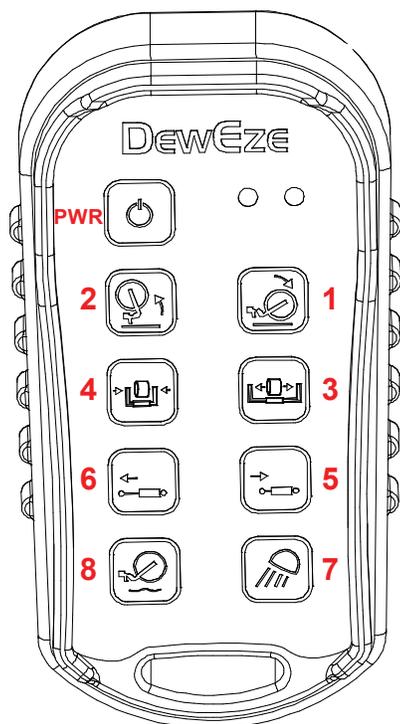
**Remote Hand Control** - The original Digitec remote system is obsolete. Options are available to upgrade to a Kar-Tech system or use a corded remote.

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

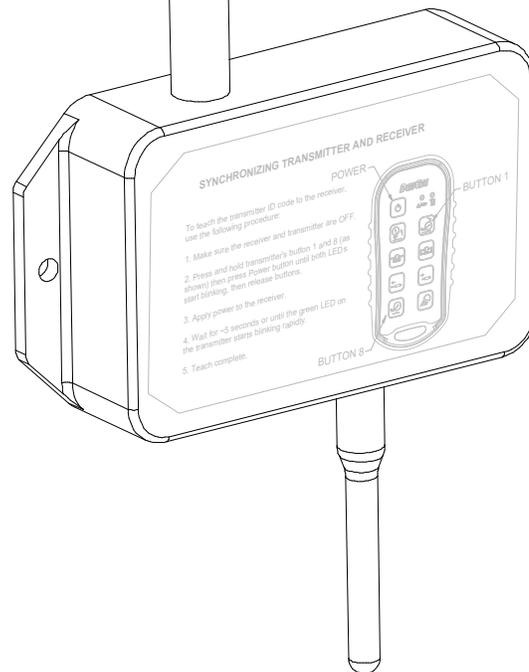


# KAR-TECH WIRELESS: DEWEZE AG

## 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 not 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 not 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.

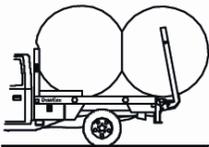


Fig. 1

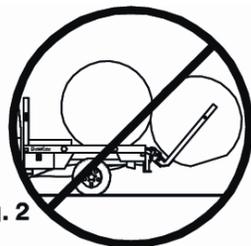


Fig. 2

**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!**

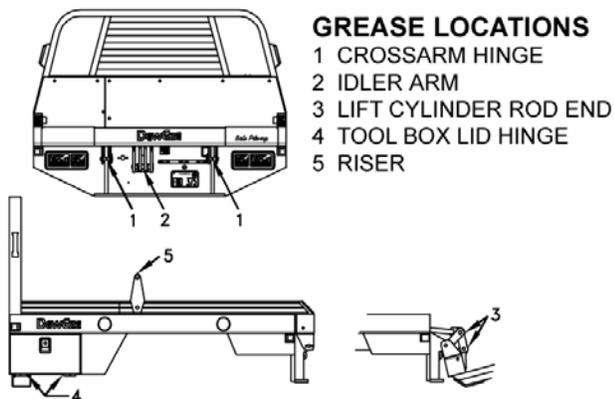
**Do not check for hydraulic leaks with your hands while the system is operating. Use a piece of wood or cardboard. Hydraulic fluid escaping under pressure can penetrate the skin and may cause death if not treated immediately.**

## 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      | <ul style="list-style-type: none"> <li>• CHECK OIL LEVEL IN RESERVOIR. If oil level is low, check for leaks in system.</li> <li>• CHECK BELT TENSION. Tighten if needed. Replace belt if necessary.</li> <li>• CHECK FOR SHEARED KEY ON PUMP SHAFT. Replace key.</li> <li>• CLUTCH NOT FUNCTIONING. See clutch section.</li> <li>• INTERNAL PUMP DAMAGE. Have pump repaired or replaced.</li> <li>• CHECK PRESSURE LINE AT PUMP TO SEE IF OIL IS MOVING.</li> <li>• CHECK TO SEE IF SUCTION HOSE COLLAPSES IN SUCTION</li> </ul>  |
| Hydraulic Pump | No Oil Pressure  | <ul style="list-style-type: none"> <li>• VALVE NOT FUNCTIONING. Check for disconnected wires at solenoid.</li> <li>• CHECK FOR POSSIBLE LEAKS IN SYSTEM. Repair blown hoses.</li> <li>• CHECK FOR MALFUNCTIONING SWITCH. Replace broken switches.</li> <li>• PRESSURE RELIEF IS BROKEN ALLOWING OIL TO BYPASS SYSTEM. Replace pressure relief.</li> <li>• PRESSURE SEAL ON PUMP IS BROKEN OR WORN. Replace.</li> <li>• BELTS OR CLUTCH MAY BE SLIPPING. Tighten belts.</li> <li>• PRESSURE RELIEF MAY BE SET TOO LOW.</li> </ul> <p><b>CAUTION: PRESSURE EXCEEDING 2,600 PSI CAN DAMAGE THE PUMP.</b></p>                             |
| Clutch         | Does Not Engage  | <ul style="list-style-type: none"> <li>• CHECK FOR BLOWN FUSE. Replace.</li> <li>• <b>CAUTION: FUSE SHOULD NOT EXCEED 30 AMPS</b></li> <li>• CHECK WIRE TO CLUTCH. Insure there are no breaks or shorts.</li> <li>• CHECK FOR BAD SWITCHES IN SYSTEM. Replace.</li> <li>• CHECK FOR BAD MAGNETIC COIL. Use jumper from positive battery terminal to check coil. Replace coil if necessary.</li> </ul>   |
| Belt(s)        | Jumps Off Pulley | <ul style="list-style-type: none"> <li>• BELTS TOO LOOSE. Tighten belts.</li> <li>• CHECK FOR EXCESSIVE BELT WEAR. Replace worn belts.</li> <li>• CHECK FOR LOOSE PUMP BRACKET. Tighten loose bolts. Replace broken bolts.</li> <li>• CHECK ALIGNMENT OF CLUTCH AND CRANKSHAFT PULLEYS. Re-align pulleys.</li> <li>• CHECK CRANKSHAFT PULLEY FOR LOOSE OR BROKEN BOLTS. Tighten loose bolts. Replace broken bolts.</li> <li>• CHECK ALIGNMENT OF IDLER PULLEY AND THE CONDITION OF IDLER PULLEY BEARINGS. Re-align idler pulley. Replace worn or broken bearings.</li> <li>• MAKE SURE THAT BELTS ARE NOT CRACKED OR WORN.</li> </ul> |



# DewEze®

## 400/500 SERIES

# PARTS

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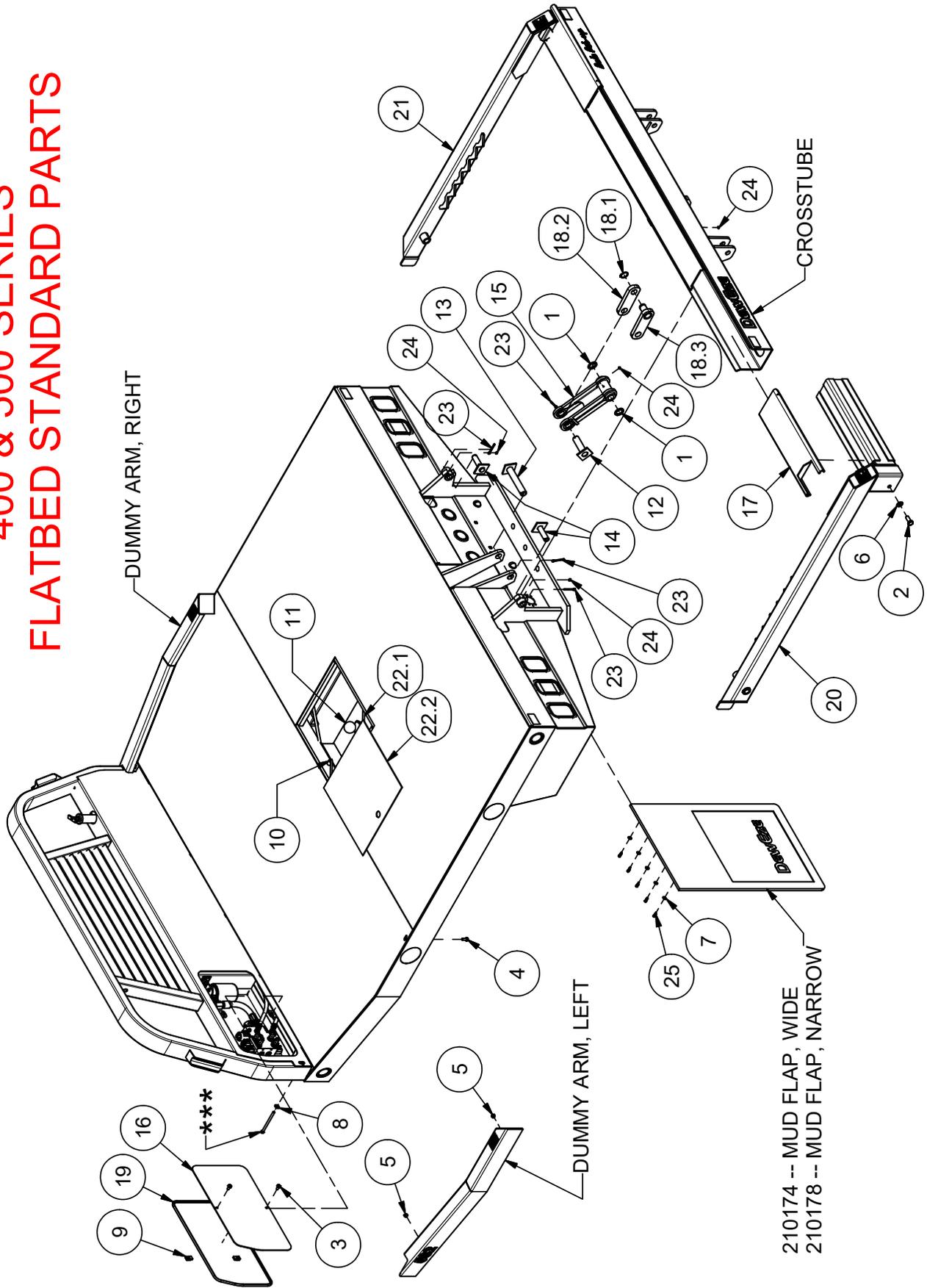
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# 400 & 500 SERIES FLATBED STANDARD PARTS



7/23/2012

# 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-6FF90                    |
| 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

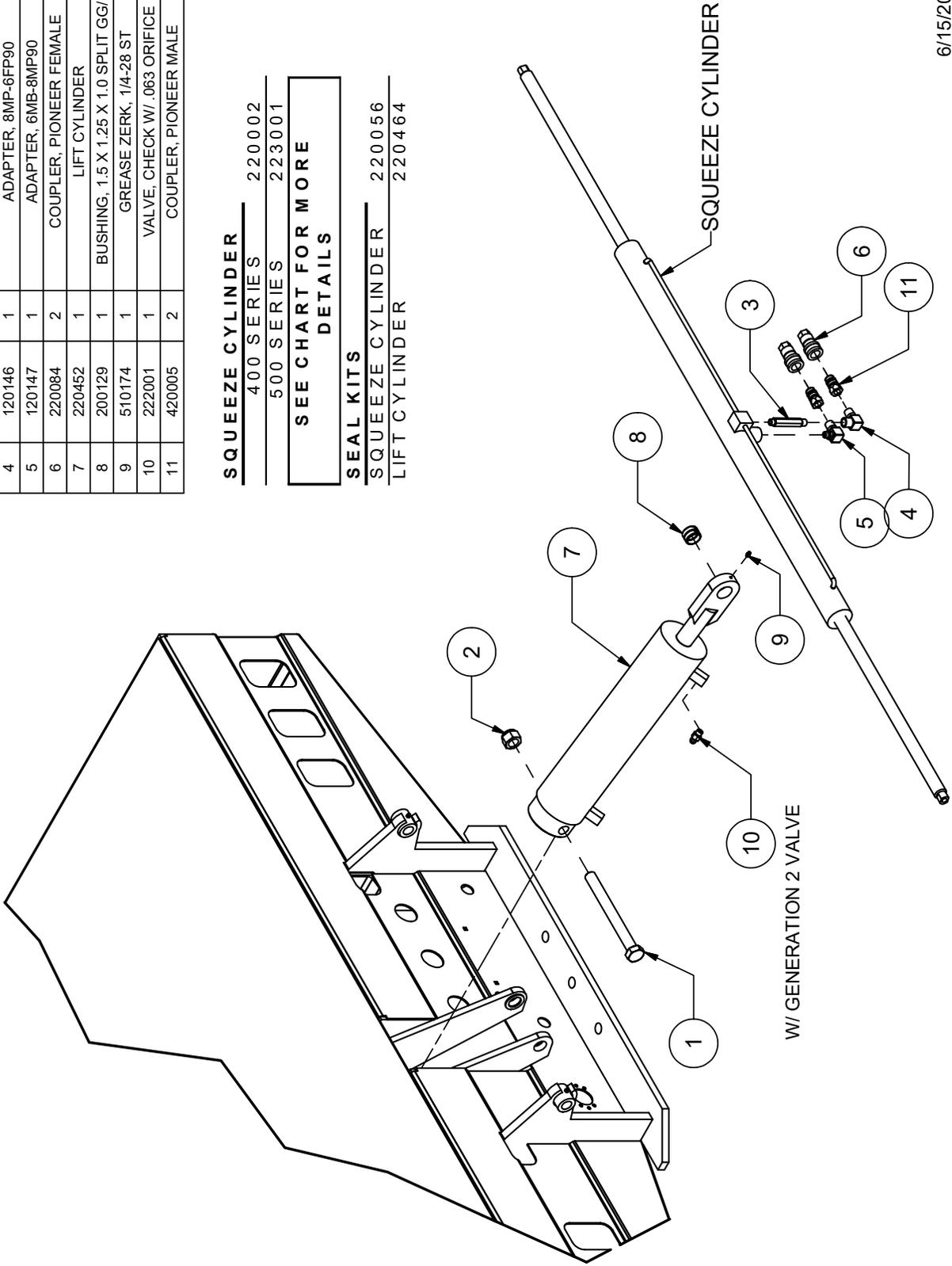
500 SERIES 223001

SEE CHART FOR MORE  
DETAILS

## SEAL KITS

SQUEEZE CYLINDER 220056

LIFT CYLINDER 220464



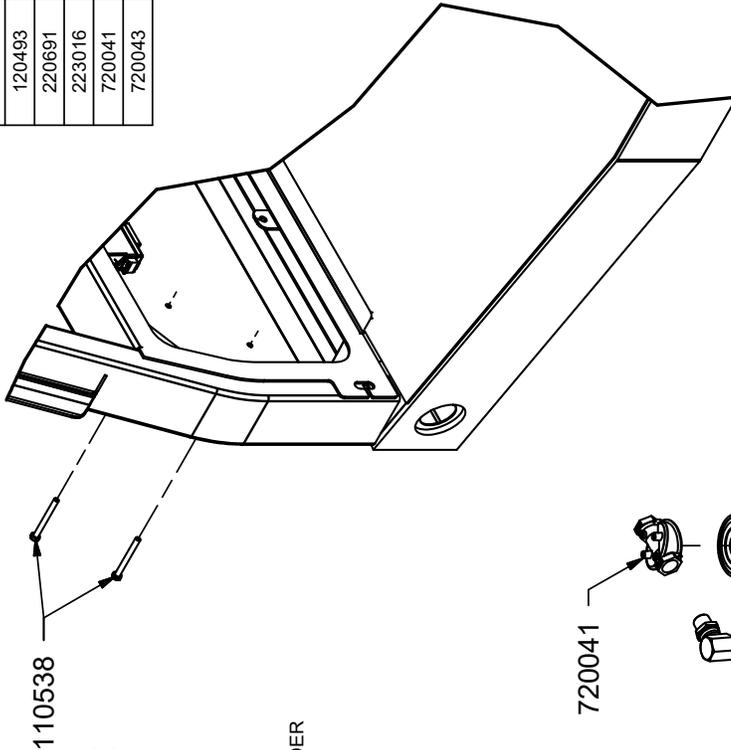
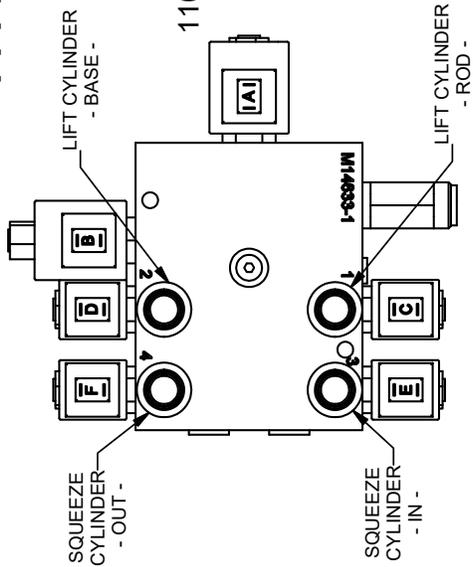
6/15/2012

| Flatbed Squeeze Cylinders  |         |     |                  |         |        |
|--|---------|-----|------------------|---------|--------|
| Bed Width  | Model # |     | Squeeze Cylinder | Model # |        |
| 85.375"  | 670     |     | 220002           | 470     |        |
|  | 675     |     |                  | 475     |        |
|  | 677     |     |                  | 477     |        |
|  | 679     |     |                  | 479     |        |
| 91.375"  |         |     | 220002           | 482     |        |
|  |         |     |                  | 482     | XRM    |
|  |         |     |                  | 484     |        |
|  |         |     |                  | 484     | XRM    |
|  |         |     |                  | 487     |        |
|  |         |     |                  | 487     | XRM    |
|  |         |     |                  | 488     |        |
|  |         | 488 | XRM              |         |        |
| 93.0"  | 682     |     | 223032           |         |        |
|  | 682     | XRM |                  |         |        |
|  | 684     |     |                  |         |        |
|  | 684     | XRM |                  |         |        |
|  | 687     |     |                  |         |        |
|  | 687     | XRM |                  |         |        |
|  | 688     |     |                  |         |        |
| 688  | XRM     |     |                  |         |        |
| 96.5"  | 770     |     | 223001           |         |        |
|  | 770     | XRM |                  |         |        |
|  | 778     |     |                  | 578     |        |
|  | 778     | XRM |                  | 578     | XRM    |
|  | 782     |     |                  | 582     |        |
|  | 782     | XRM |                  | 582     | XRM    |
|  | 784     |     |                  |         |        |
|  | 784     | XRM |                  |         |        |
|  | 787     |     |                  | 587     |        |
|  | 787     | XRM |                  | 587     | XRM    |
|  | 788     |     |                  |         |        |
|  | 788     | XRM |                  |         |        |
|  | 85.375  | 670 |                  | XRM     | 223001 |
| 675  |         | XRM | 475              | XRM     |        |
| 677  |         | XRM | 477              | XRM     |        |
| 679  |         | XRM | 479              | XRM     |        |
| <p align="center"><b>A Synchronized Squeeze Cylinder</b></p> <p align="center">Part # <b>223026</b></p> <p align="center">is available as an option for all beds.</p> <p align="center">This cylinder is the same length as # <b>223001</b>.</p> |         |     |                  |         |        |
| <p align="center">Squeeze Cylinder Seal Kit Part # 220056</p>  |         |     |                  |         |        |

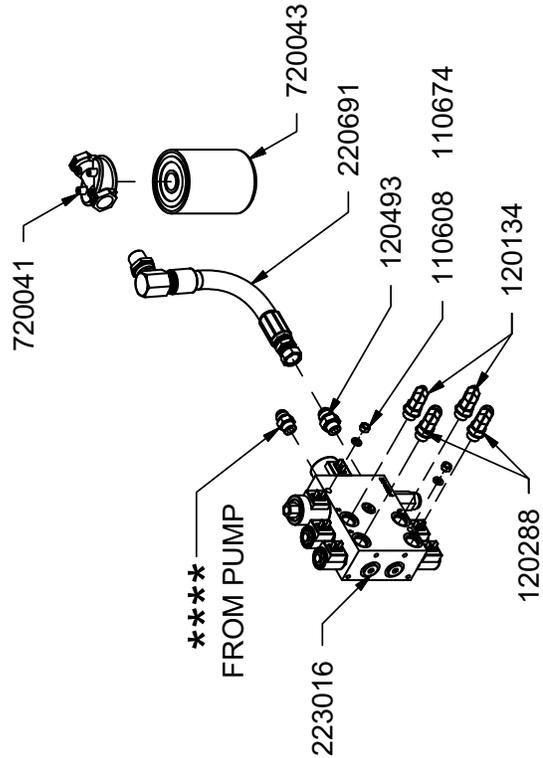
# HYDRAULIC ASSEMBLY VALVE & FILTER RETURN HOSE CHANGED 2009

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        |

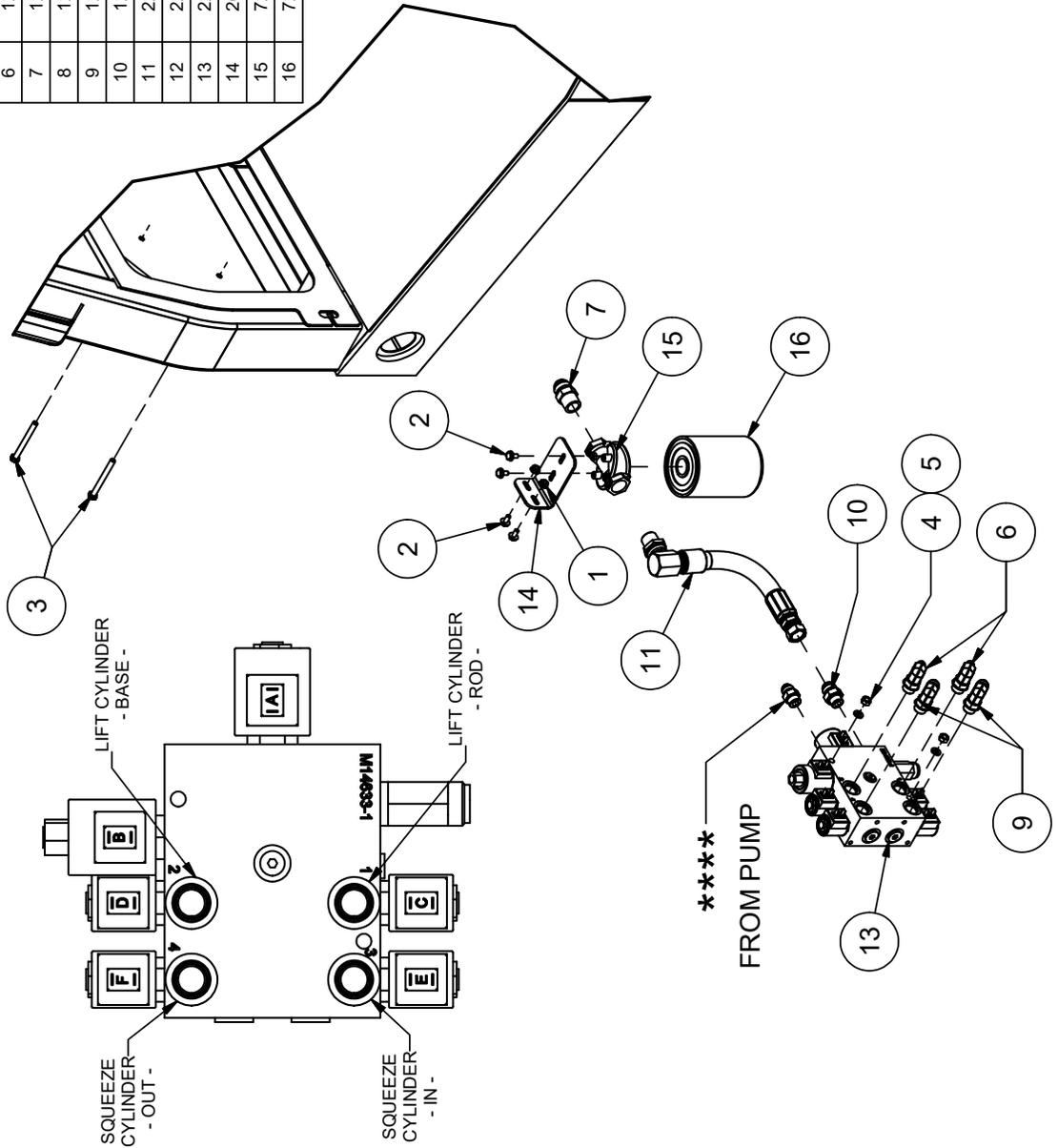


\*\*\*\*\*  
5, 7 & 9 GALLON SYSTEM  
120277 -- ADAPTER 8MJ-8MB  
  
12 & 17 GALLON SYSTEM  
120174 -- ADAPTER, 8MB-12FPX



# HYDRAULIC ASSEMBLY VALVE & FILTER

RETURN HOSE CHANGED 2009  
FILTER BRACKET LATE 2012



Parts List

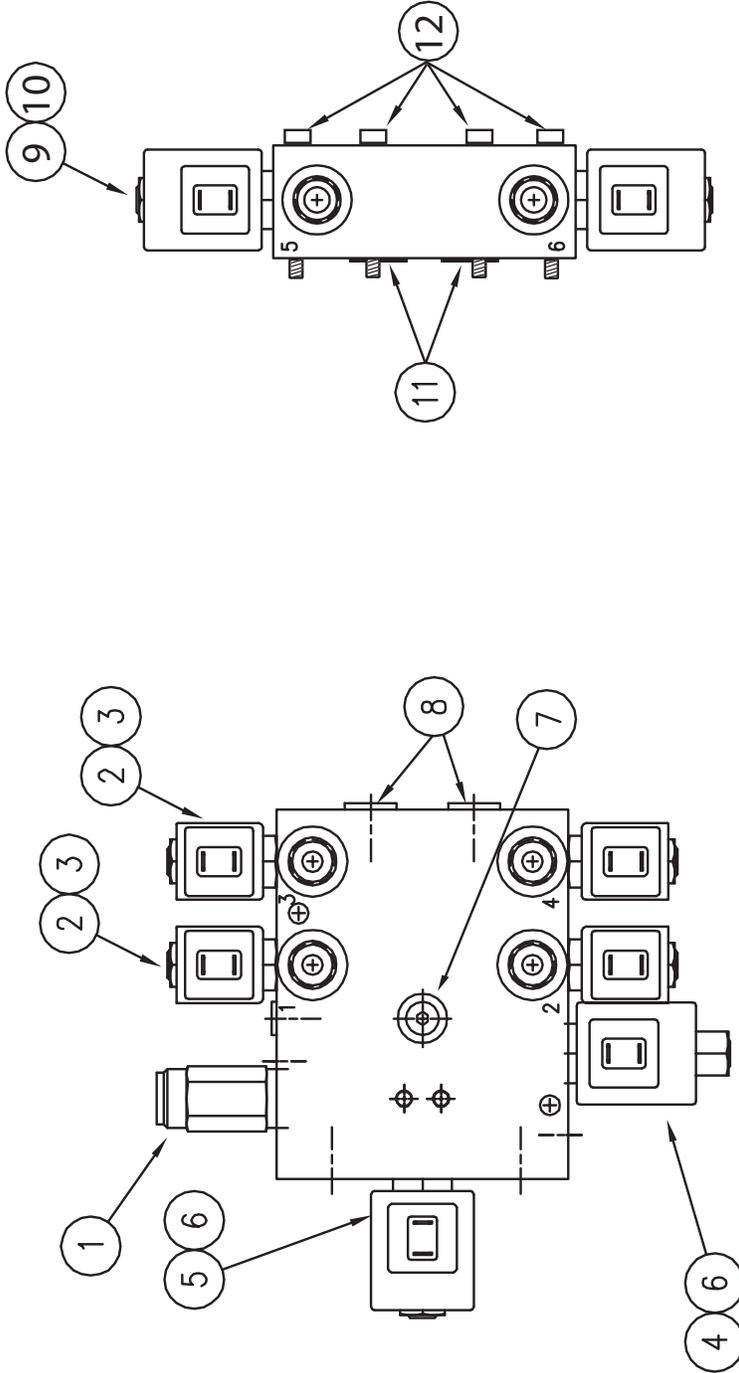
| ITEM | PART # | QTY | DESCRIPTION                    |
|------|--------|-----|--------------------------------|
| 1    | 110290 | 2   | NUT, 1/4-20 WIZ FLANGE         |
| 2    | 110434 | 4   | BOLT, 1/4-20 X 0.5, WIZ FLANGE |
| 3    | 110538 | 2   | BOLT, 5/16-18 X 3.0            |
| 4    | 110608 | 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        |
|         | <b>VALVE, MONOBLOCK, COMPLETE</b> | <b>223016</b> | <b>1</b> |

## 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        |
|         | <b>VALVE, 3RD BANK ADD ON (223016)</b> | <b>223017</b> | <b>1</b> |

# 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.

| PART #                      | QTY | DESCRIPTION                       |
|-----------------------------|-----|-----------------------------------|
| 5, 7 & 9 GALLON SYSTEM      |     |                                   |
| 120015                      | 1   | ADAPTER, 20MB-20FP                |
| 200083                      | 1   | FITTING, NIPPLE, 1-1/4 X 6        |
| 220107                      | 1   | FITTING, REDUCER, 1-1/4 - 1.0 ELL |
| 720075                      | 1   | HOSE BARB, 1                      |
| 720107                      | 1   | HOSE CLAMP, #20                   |
| 12 & 17 GALLON SYSTEM       |     |                                   |
| PART #                      | QTY | DESCRIPTION                       |
| 120015                      | 1   | ADAPTER, 20MB-20FP                |
| 200083                      | 1   | FITTING, NIPPLE, 1-1/4 X 6        |
| 720158                      | 1   | FITTING, ELL 1-1/4                |
| 220217                      | 1   | HOSE BARB, 1-1/4                  |
| 511002                      | 1   | HOSE CLAMP, #24                   |
| 2003 DODGE DUALLY, 5, 7 & 9 |     |                                   |
| PART #                      | QTY | DESCRIPTION                       |
| 120015                      | 1   | ADAPTER, 20MB-20FP                |
| 720070                      | 1   | FITTING, REDUCER, 1-1/4 - 1.0     |
| 720075                      | 1   | HOSE BARB, 1                      |
| 720107                      | 1   | HOSE CLAMP, #20                   |
| 2003 DODGE DUALLY, 12 & 17  |     |                                   |
| PART #                      | QTY | DESCRIPTION                       |
| 120015                      | 1   | ADAPTER, 20MB-20FP                |
| 220217                      | 1   | HOSE BARB, 1-1/4                  |
| 511002                      | 1   | HOSE CLAMP, #24                   |

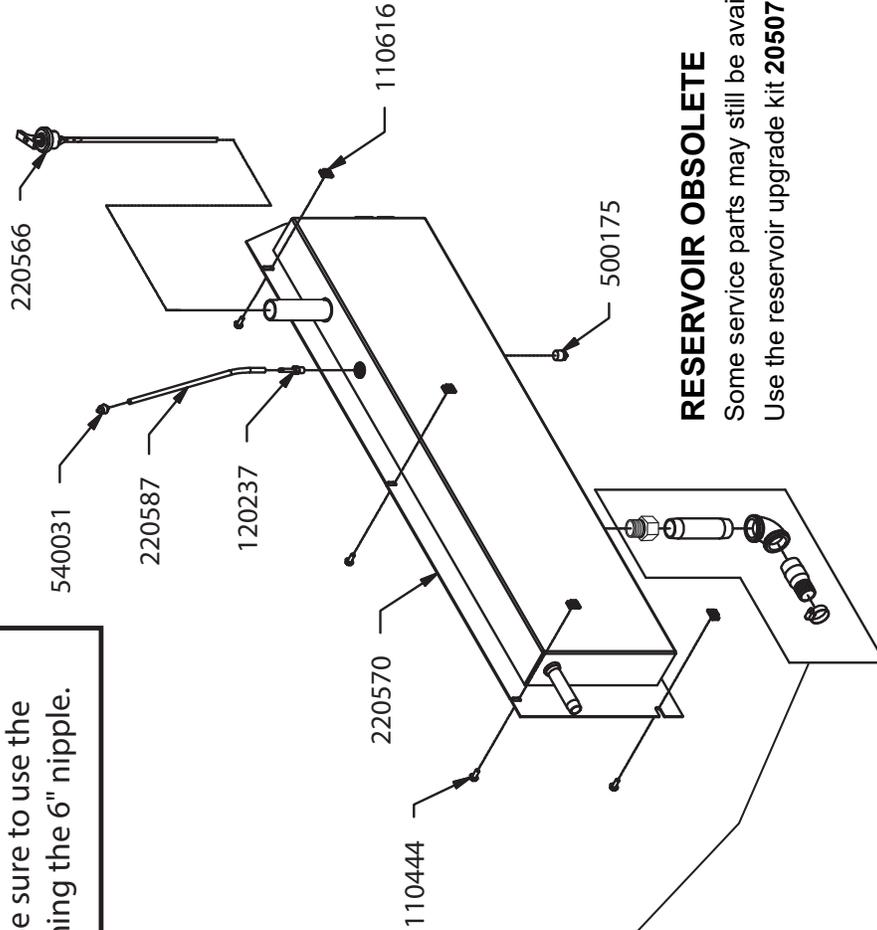
**RUNNING CHANGE**

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

9/2024

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                      |



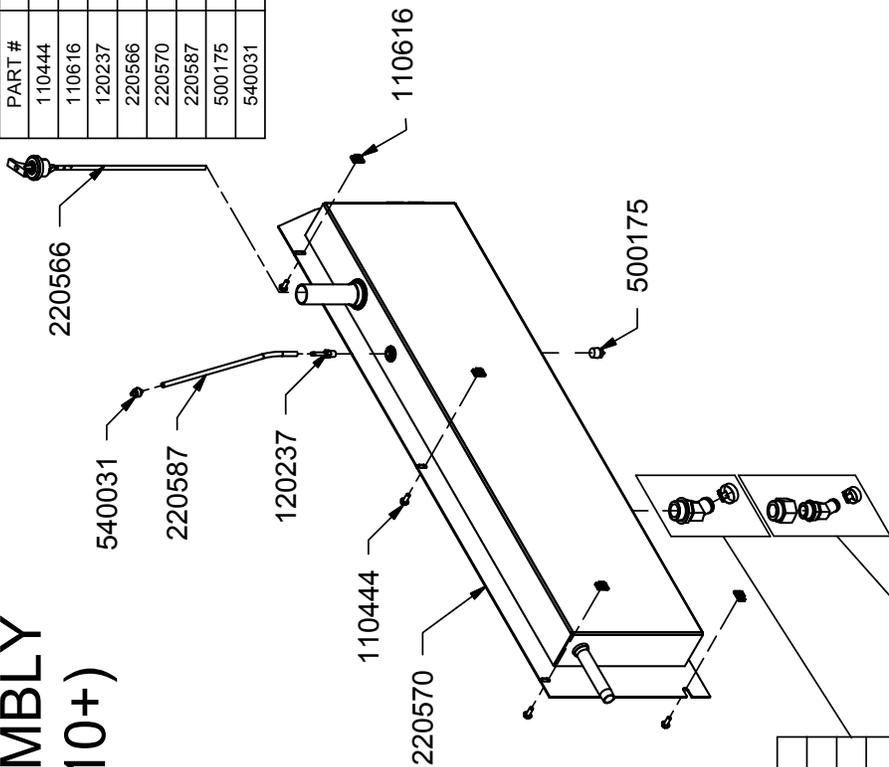
**RESERVOIR OBSOLETE**

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

# 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 #                | DESCRIPTION            |
| 120189                | ADAPTER, 20MB-20BH 45° |
| 511002                | HOSE CLAMP, #24        |

| 5, 7 & 9 GALLON SYSTEM |                        |
|------------------------|------------------------|
| PART #                 | DESCRIPTION            |
| 120188                 | ADAPTER, 16MB-16BH 45° |
| 120511                 | ADAPTER, 20MB-16FOR    |
| 720107                 | 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.

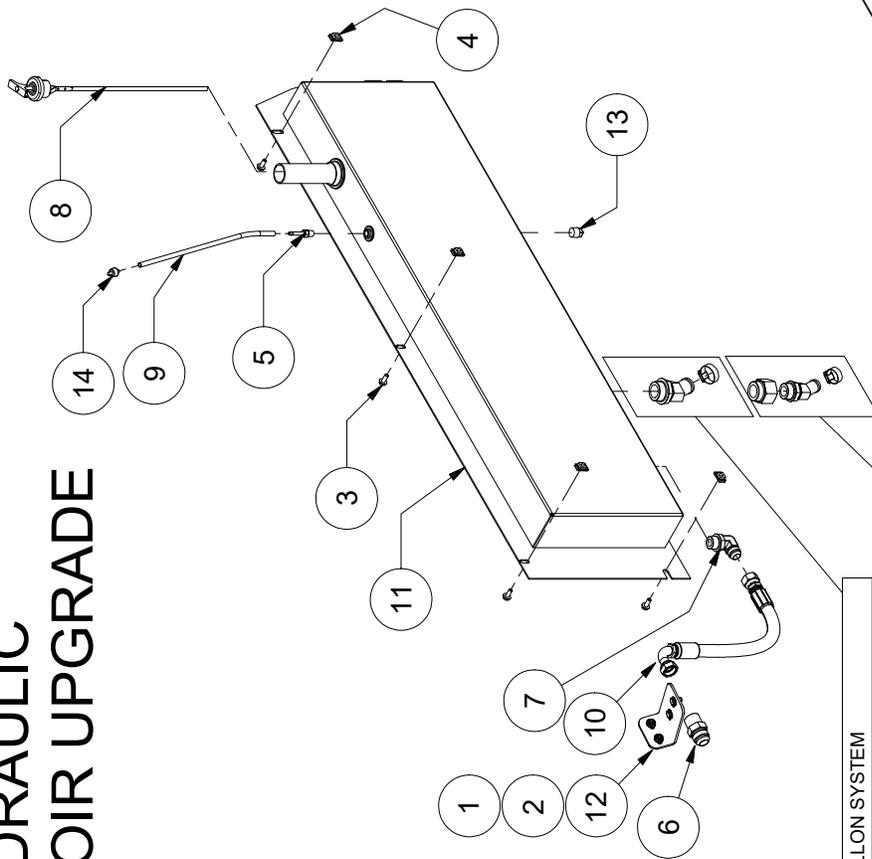
# HYDRAULIC RESERVOIR UPGRADE

Reservoir Upgrade Kit: 205075

| Item | Qty | Part # | DESCRIPTION                       |
|------|-----|--------|-----------------------------------|
| 1    | 2   | 110290 | Nut, 1/4-20 Wiz Flange            |
| 2    | 4   | 110434 | Bolt, 1/4-20 X 0.5, Wiz Flange    |
| 6    | 2   | 120244 | Adapter, 12mj-12mp                |
| 7    | 1   | 120257 | Adapter, 12mj-12mb90              |
| 10   | 1   | 220700 | Filter To Reservoir Hose          |
| 11   | 1   | 225012 | Reservoir, Flatbed, Remote Filter |
| 12   | 1   | 260265 | Mounting Bracket, Filter          |

Separate Parts List

| Item | Qty | Part # | DESCRIPTION                        |
|------|-----|--------|------------------------------------|
| 3    | 4   | 110444 | Bolt, 5/16 - 18 X 0.75, Wiz Flange |
| 4    | 4   | 110616 | Nut, 5/16, J-Type, Cage, .5c       |
| 5    | 1   | 120237 | Adapter, 4bh-4mp                   |
| 8    | 1   | 220566 | Dip Stick                          |
| 9    | 1   | 220587 | Vent Hose                          |
| 13   | 1   | 500175 | Fitting, Plug 1/2" Pipe            |
| 14   | 1   | 540031 | Vent Filter (Fuel Filter)          |

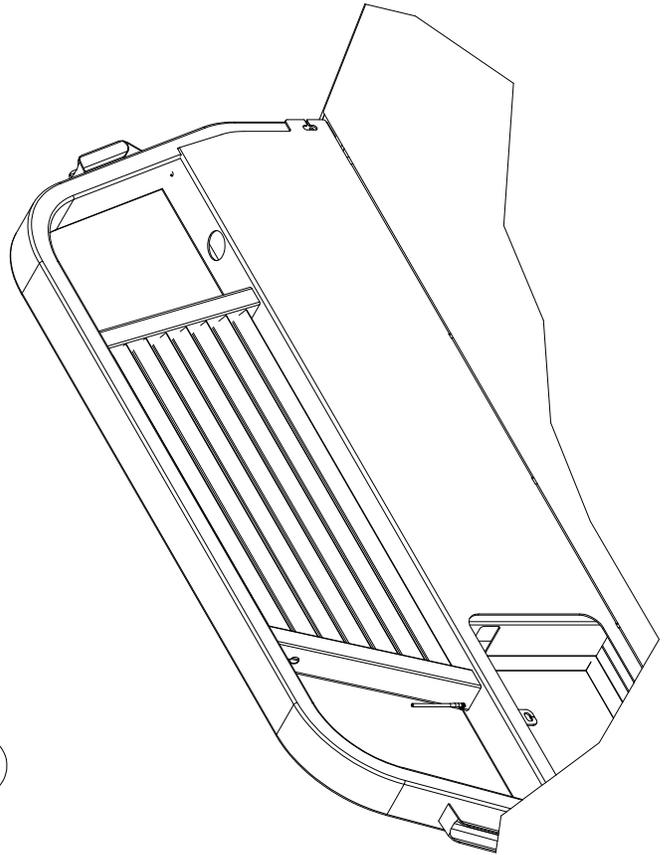


12 & 17 GALLON SYSTEM

| 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        |



# HOSE CHART

## 400 & 500 SERIES WITH GENERATION 2 VALVES

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

# HOSE CHART

## RETURN HOSE CHANGED 2009

### 400 & 500 SERIES WITH GENERATION 2 VALVES

| FLATBED SERIES | SQUEEZE HOSES                  |                | LIFT HOSES                        |                                   | RESERVOIR RETURN<br>3/4 SUCTION | HYDRAULIC HOSE KIT # |
|----------------|--------------------------------|----------------|-----------------------------------|-----------------------------------|---------------------------------|----------------------|
|                | 8M3K - 8MP / 8FJX<br>IN (BLUE) | OUT (ORANGE)   | 6M3K - 6MB / 6FJX<br>BASE (BROWN) | 6M3K - 6FJX / 6FJX<br>ROD (GREEN) |                                 |                      |
| <b>470</b>     | 220610 (129in)                 | 220610 (129in) | 220611 (65in)                     | 220646 (84in)                     | 220691 (12.25in)                | 223024               |
| <b>470W</b>    | 220610 (129in)                 | 220610 (129in) | 220611 (65in)                     | 220646 (84in)                     | 220691 (12.25in)                | 223024               |
| <b>475</b>     | 220613 (152in)                 | 220613 (152in) | 220614 (88in)                     | 220642 (107in)                    | 220691 (12.25in)                | 223018               |
| <b>478</b>     | 220613 (152in)                 | 220613 (152in) | 220614 (88in)                     | 220642 (107in)                    | 220691 (12.25in)                | 223018               |
| <b>477</b>     | 220616 (164in)                 | 220616 (164in) | 220617 (100in)                    | 220643 (119in)                    | 220691 (12.25in)                | 223019               |
| <b>480</b>     | 220616 (164in)                 | 220616 (164in) | 220617 (100in)                    | 220643 (119in)                    | 220691 (12.25in)                | 223019               |
| <b>482</b>     | 220616 (164in)                 | 220616 (164in) | 220617 (100in)                    | 220643 (119in)                    | 220691 (12.25in)                | 223019               |
| <b>485</b>     | 220622 (182in)                 | 220622 (182in) | 220623 (118in)                    | 220644 (137in)                    | 220691 (12.25in)                | 223020               |
| <b>487</b>     | 220622 (182in)                 | 220622 (182in) | 220623 (118in)                    | 220644 (137in)                    | 220691 (12.25in)                | 223020               |
| <b>578</b>     | 220613 (152in)                 | 220613 (152in) | 220614 (88in)                     | 220642 (107in)                    | 220691 (12.25in)                | 223018               |
| <b>582</b>     | 220616 (164in)                 | 220616 (164in) | 220617 (100in)                    | 220643 (119in)                    | 220691 (12.25in)                | 223019               |
| <b>587</b>     | 220622 (182in)                 | 220622 (182in) | 220623 (118in)                    | 220644 (137in)                    | 220691 (12.25in)                | 223020               |

**400 SERIES WITH LARGE AND SMALL FPS VALVES**

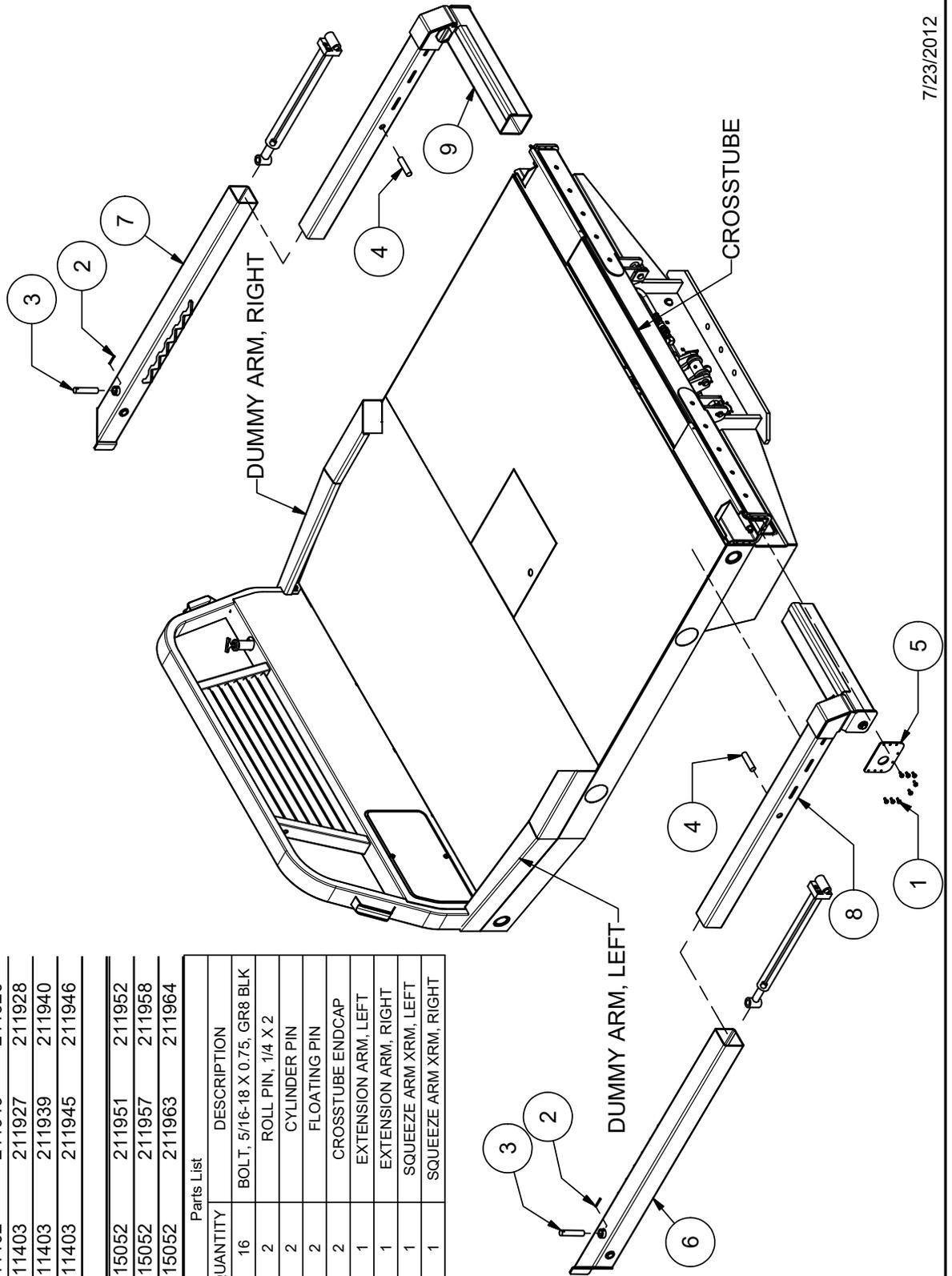
| FLATBED<br>SERIES | SQUEEZE HOSES  |                | LIFT HOSES     |                | RESERVOIR RETURN  |                   | HYDRAULIC<br>HOSE KIT # |
|-------------------|----------------|----------------|----------------|----------------|-------------------|-------------------|-------------------------|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

**400 & 500 SERIES  
FLATBED XRM PARTS**

| XRM | CROSSTUBE | DUMMY ARM LEFT | DUMMY ARM 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       | DESCRIPTION                   |
| 1          | BOLT, 5/16-18 X 0.75, GR8 BLK |
| 2          | ROLL PIN, 1/4 X 2             |
| 3          | CYLINDER PIN                  |
| 4          | FLOATING PIN                  |
| 5          | CROSSTUBE ENDCAP              |
| 6          | EXTENSION ARM, LEFT           |
| 7          | EXTENSION ARM, RIGHT          |
| 8          | SQUEEZE ARM XRM, LEFT         |
| 9          | SQUEEZE ARM XRM, RIGHT        |



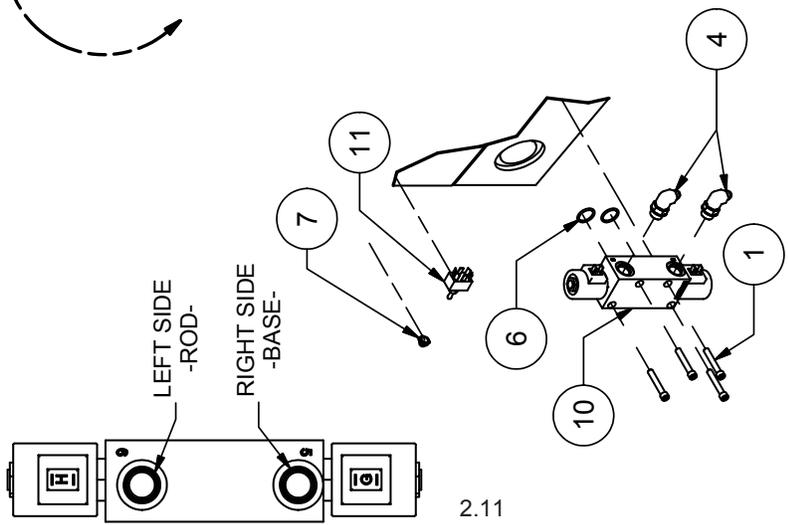
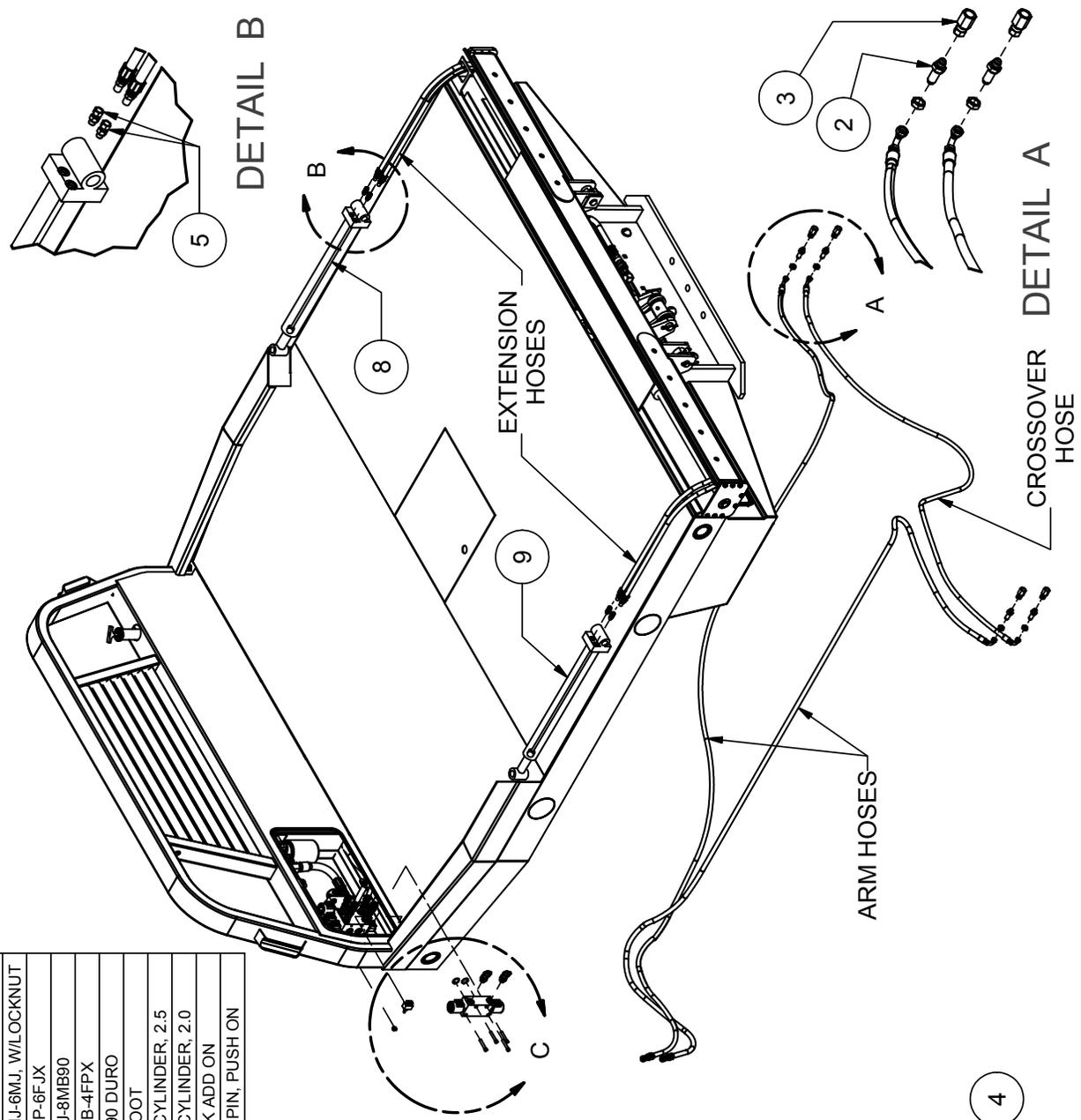
Parts List

| ITEM | PART # | QTY | DESCRIPTION                           |
|------|--------|-----|---------------------------------------|
| 1    | 110168 | 4   | BOLT, 5/16-18 X 2.0 SHCS              |
| 2    | 120102 | 4   | ADAPTER, BULKHEAD, 6MJ-6MJ, W/LOCKNUT |
| 3    | 120123 | 4   | ADAPTER, 6FP-6FJX                     |
| 4    | 120134 | 2   | ADAPTER, 6MJ-8MB90                    |
| 5    | 120186 | 4   | ADAPTER, 4MB-4FPX                     |
| 6    | 120376 | 2   | O-RING, -119, 90 DURO                 |
| 7    | 132035 | 1   | SWITCH BOOT                           |
| 8    | 220455 | 1   | EXTENDABLE ARM CYLINDER, 2.5          |
| 9    | 220456 | 1   | EXTENDABLE ARM CYLINDER, 2.0          |
| 10   | 223017 | 1   | VALVE, 3rd BANK ADD ON                |
| 11   | 232086 | 1   | SWITCH, DPDT, M, 6 PIN, PUSH ON       |

SEAL KITS

- 2.5 CYLINDER 220532
- 2.0 CYLINDER 220533

# XRM HYDRAULICS



DETAIL C

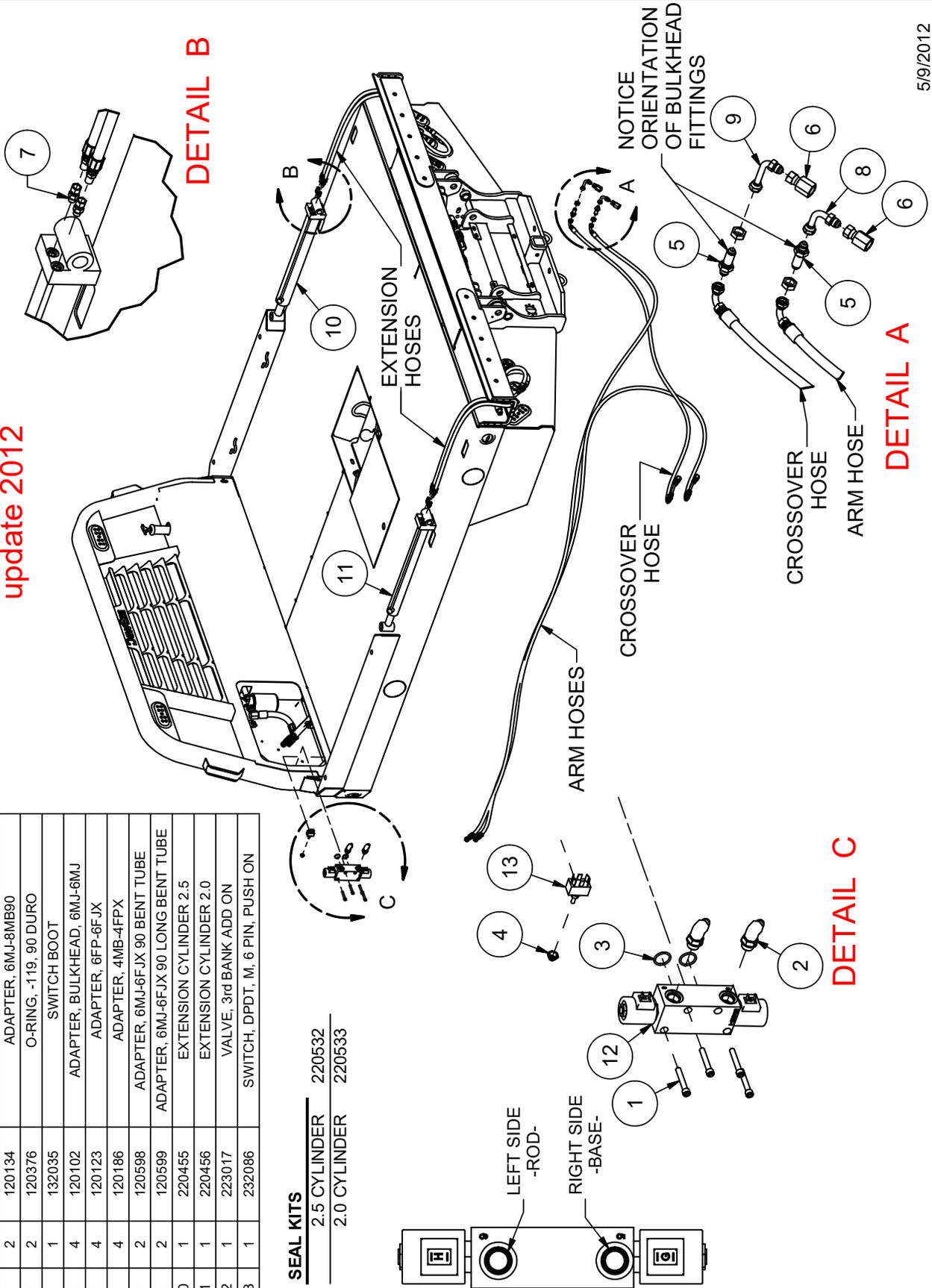
3/2/2011

**XRM Hydraulics**  
update 2012

| Parts List |     |                                     |
|------------|-----|-------------------------------------|
| ITEM       | QTY | DESCRIPTION                         |
| 1          | 4   | BOLT, 5/16-18 X 2.0 SHCS            |
| 2          | 2   | ADAPTER, 6MJ-8MB90                  |
| 3          | 2   | O-RING, -119, 90 DURO               |
| 4          | 1   | SWITCH BOOT                         |
| 5          | 4   | ADAPTER, BULKHEAD, 6MJ-6MJ          |
| 6          | 4   | ADAPTER, 6FP-6FJX                   |
| 7          | 4   | ADAPTER, 4MB-4FPX                   |
| 8          | 2   | ADAPTER, 6MJ-6FJX 90 BENT TUBE      |
| 9          | 2   | ADAPTER, 6MJ-6FJX 90 LONG BENT TUBE |
| 10         | 1   | EXTENSION CYLINDER 2.5              |
| 11         | 1   | EXTENSION CYLINDER 2.0              |
| 12         | 1   | VALVE, 3rd BANK ADD ON              |
| 13         | 1   | SWITCH, DPDT, M, 6 PIN, PUSH ON     |

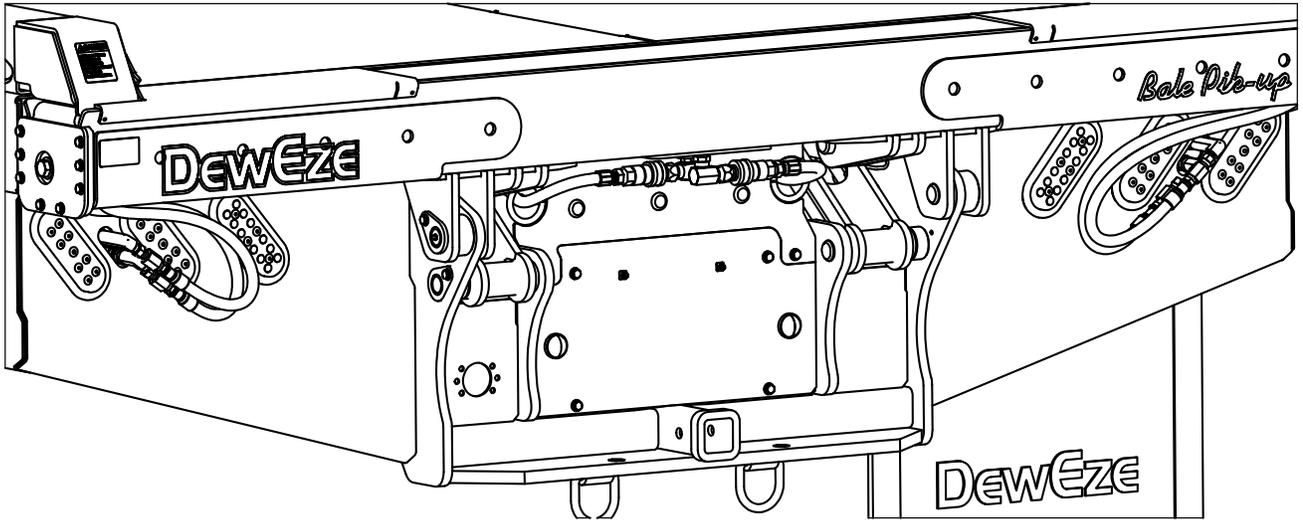
**SEAL KITS**

|              |        |
|--------------|--------|
| 2.5 CYLINDER | 220532 |
| 2.0 CYLINDER | 220533 |

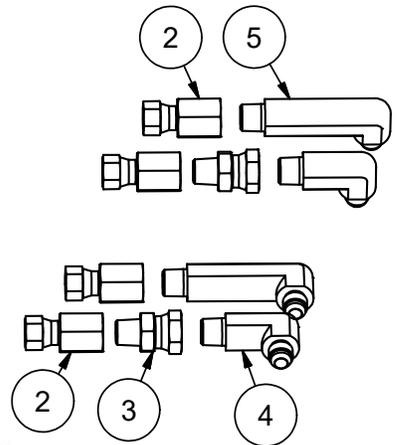
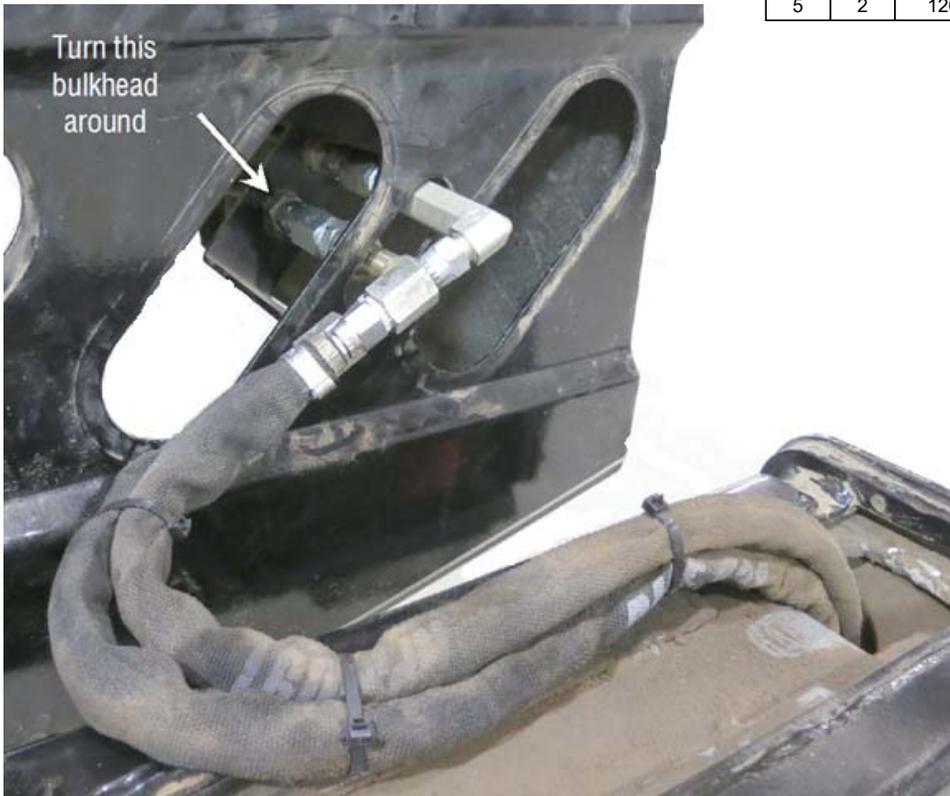


# XRM Adapter Update

## Kit # 205068



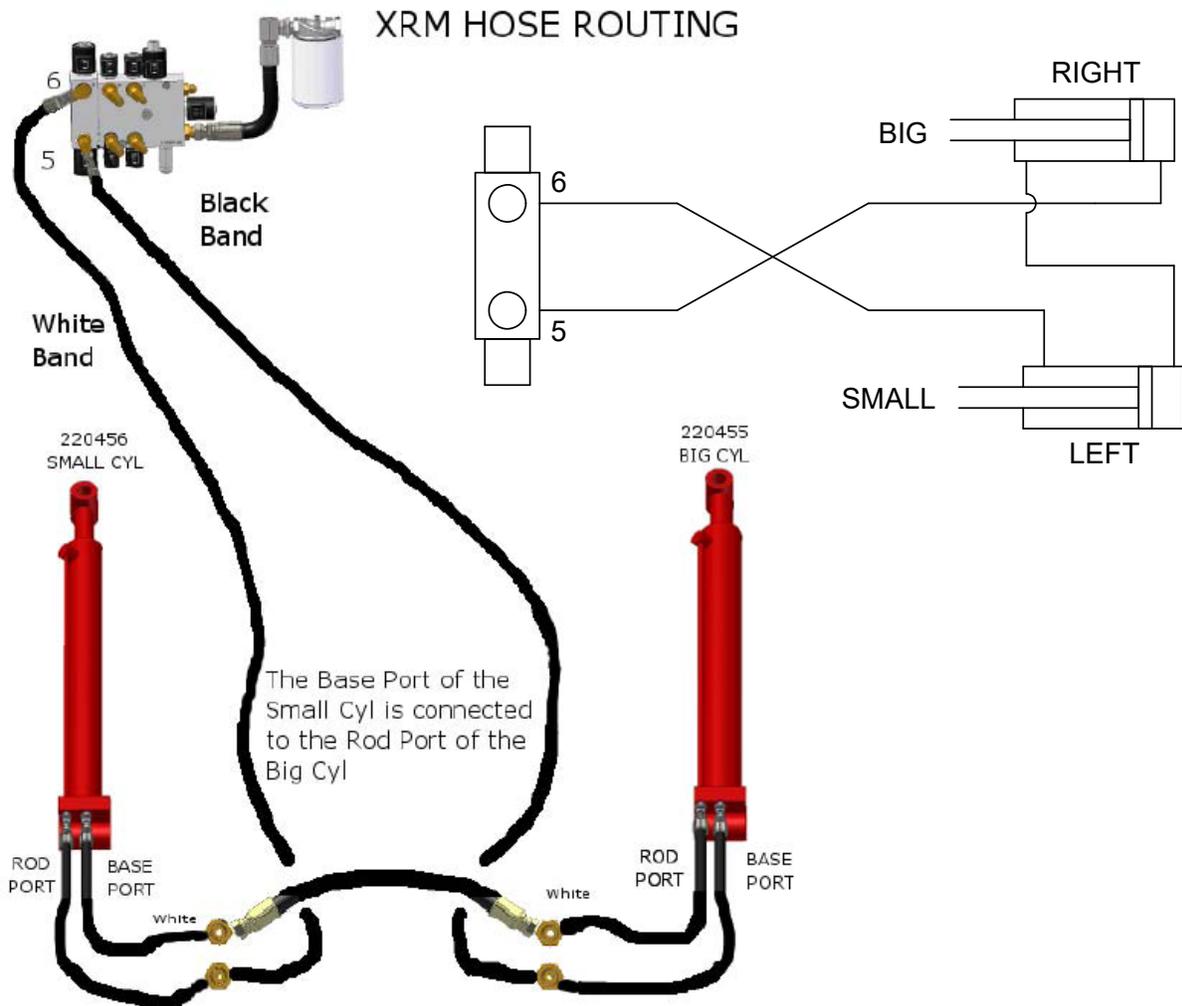
| Parts List |     |        |                                |
|------------|-----|--------|--------------------------------|
| ITEM       | QTY | PART # | DESCRIPTION                    |
| 1          | 6   | 100578 | Cable Tie 14" Black 50 Lb Tens |
| 2          | 4   | 120123 | ADAPTER, 6FP-6FJX              |
| 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<br>6M3K - 6FJX90M / 6FJX | EXTENSION HOSES<br>6M3K - 6-4MP / 6MPX | CROSSOVER HOSE<br>6M3K - 6FJX90M | HYDRAULIC<br>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,<br>482, 484,<br>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,<br>684, 782, 784         | 2ea 220627 (174in)                 | 4ea 220605 (54.3in)                    | 220645 (94.0in)                  | 223022                  |
| 587, 687,<br>688, 787, 788         | 2ea 220629 (200in)                 | 4ea 220605 (54.3in)                    | 220645 (94.0in)                  | 223023                  |

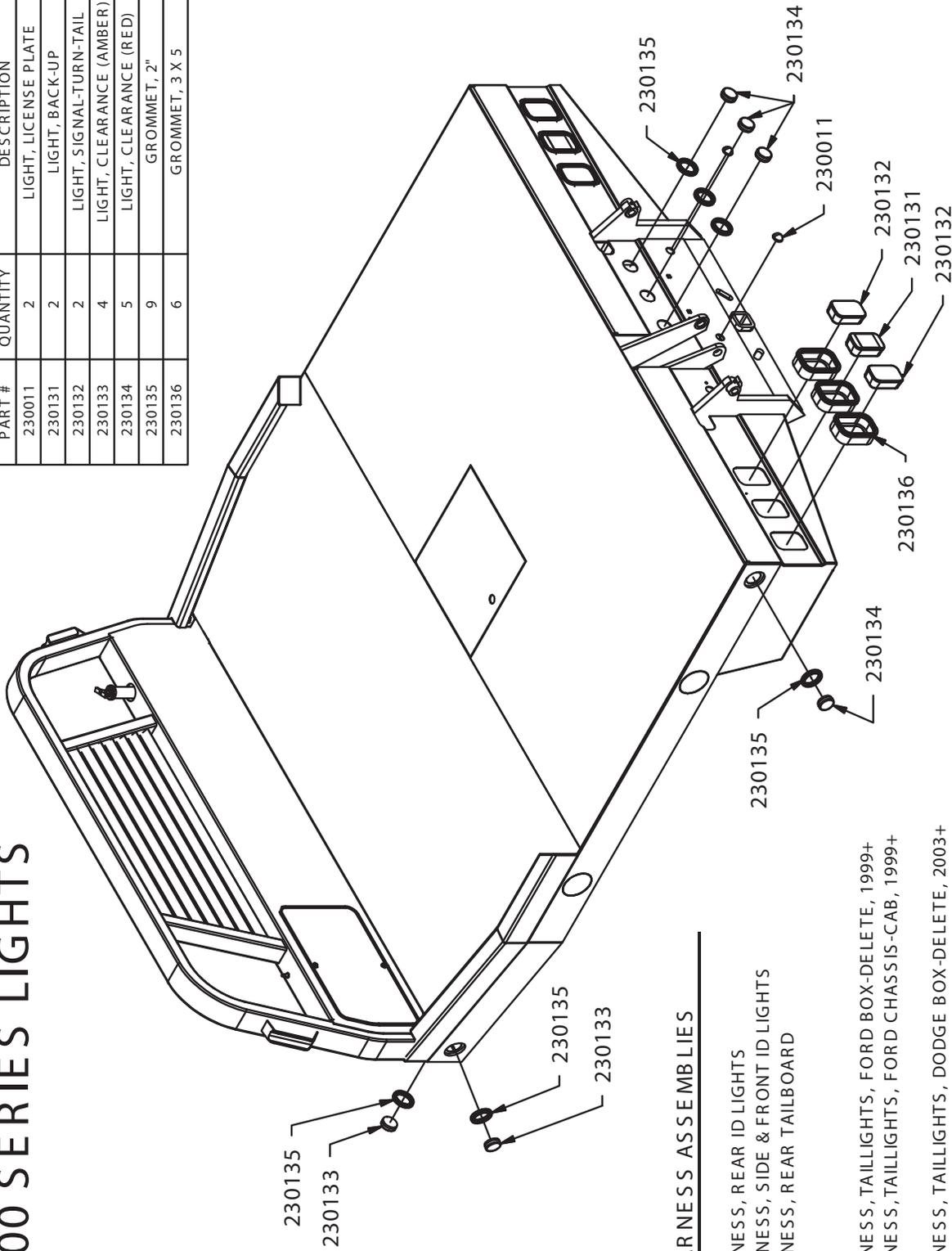


5/9/2012

# 400 / 500 SERIES LIGHTS

## Parts List

| PART # | QUANTITY | DESCRIPTION              |
|--------|----------|--------------------------|
| 230011 | 2        | LIGHT, LICENSE PLATE     |
| 230131 | 2        | LIGHT, BACK-UP           |
| 230132 | 2        | LIGHT, SIGNAL-TURN-TAIL  |
| 230133 | 4        | LIGHT, CLEARANCE (AMBER) |
| 230134 | 5        | LIGHT, CLEARANCE (RED)   |
| 230135 | 9        | GROMMET, 2"              |
| 230136 | 6        | GROMMET, 3 X 5           |



### WIRING HARNESS ASSEMBLIES

#### ALL FLATBEDS

- 232044 HARNESS, REAR ID LIGHTS
- 232045 HARNESS, SIDE & FRONT ID LIGHTS
- 232048 HARNESS, REAR TAILBOARD

#### MODEL SPECIFIC:

##### FORD

- 232046 HARNESS, TAILLIGHTS, FORD BOX-DELETE, 1999+
- 232047 HARNESS, TAILLIGHTS, FORD CHASSIS-CAB, 1999+

##### DODGE

- 232049 HARNESS, TAILLIGHTS, DODGE BOX-DELETE, 2003+

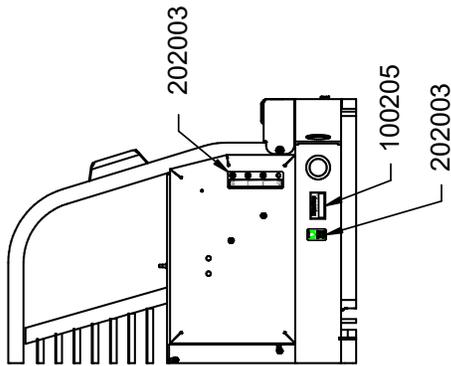
##### GM

- 232050 HARNESS, TAILLIGHTS, GM BOX-DELETE, 2002+
- 232050 HARNESS, TAILLIGHTS, GM CHASSIS-CAB, 2002+

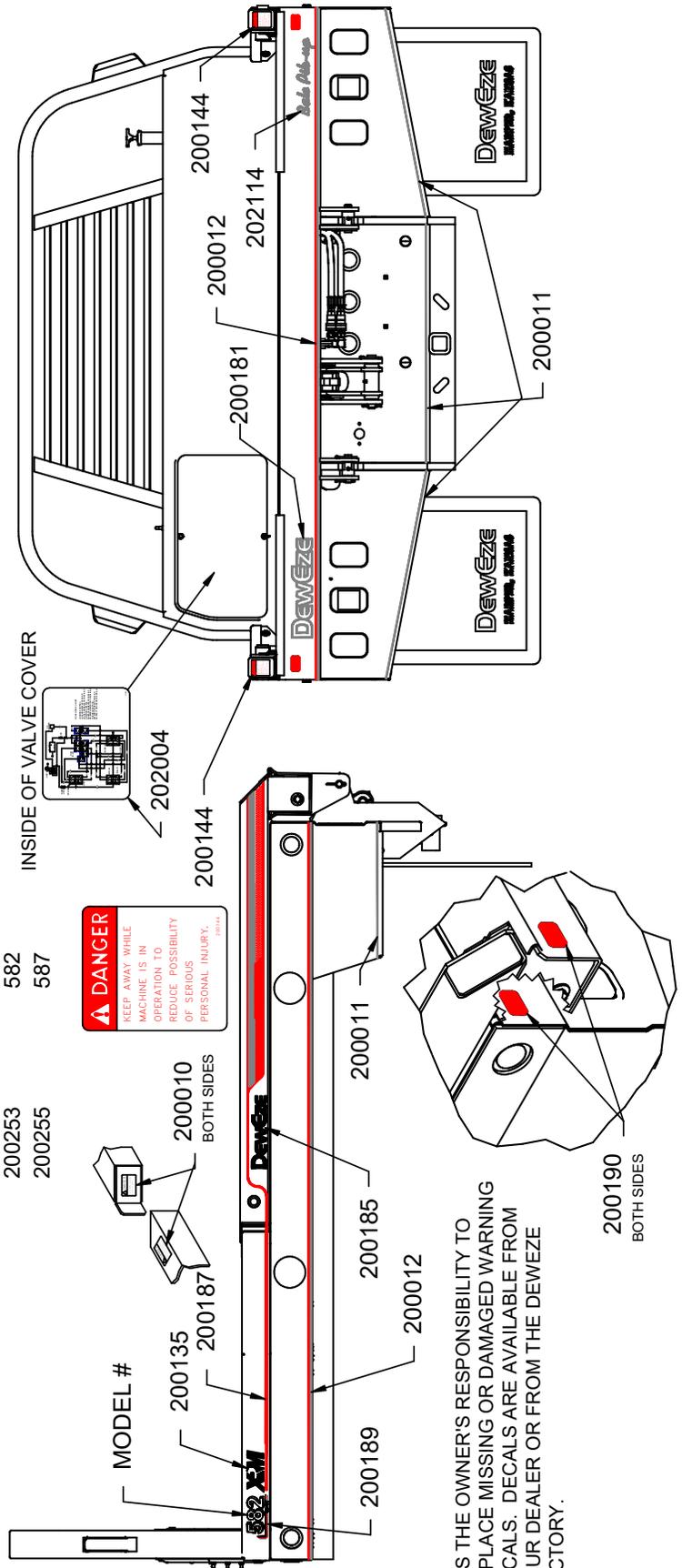
#### ALL OTHER TRUCKS

- 232049 HARNESS, TAILLIGHTS

# DECALS



| PART # | DESCRIPTION              | PART # | QTY | DESCRIPTION                  |
|--------|--------------------------|--------|-----|------------------------------|
| 100205 | SERIAL NUMBER PLATE      | 200010 | 4   | DANGER DECAL, HORIZONTAL     |
|        | <b>DECAL KITS</b>        | 200011 | --  | SILVER PIN STRIPE            |
| 200211 | 400 SERIES               | 200012 | --  | RED/SILVER PIN STRIPE        |
| 200140 | 400 SERIES XRM           | 200135 | 2   | XRM DECAL                    |
| 205001 | 500 SERIES               | 202114 | 1   | BALE PIK-UP, SILVER SCRIPT   |
| 205002 | 500 SERIES XRM           | 200144 | 2   | DANGER DECAL, VERTICAL       |
|        | <b>MODEL NUMBER SETS</b> | 200181 | 1   | DEWEZE, SILVER               |
| 200193 | 470                      | 200185 | 1   | HUGGER ARM DECAL, LT-RT      |
| 200195 | 475                      | 200187 | --  | STRIPING                     |
| 200197 | 477                      | 200189 | 1   | STRIPING, MODEL #            |
| 200199 | 478                      | 200190 | 4   | REFLECTIVE DECAL             |
| 200201 | 480                      | 202003 | 1   | DECAL, SWITCH IDENTIFICATION |
| 200203 | 482                      | 202004 | 1   | DECAL, RF SCHEMATIC          |
| 200205 | 485                      | 300002 | 1   | FEMA DECAL                   |
| 200207 | 487                      |        |     |                              |
| 200252 | 578                      |        |     |                              |
| 200253 | 582                      |        |     |                              |
| 200255 | 587                      |        |     |                              |



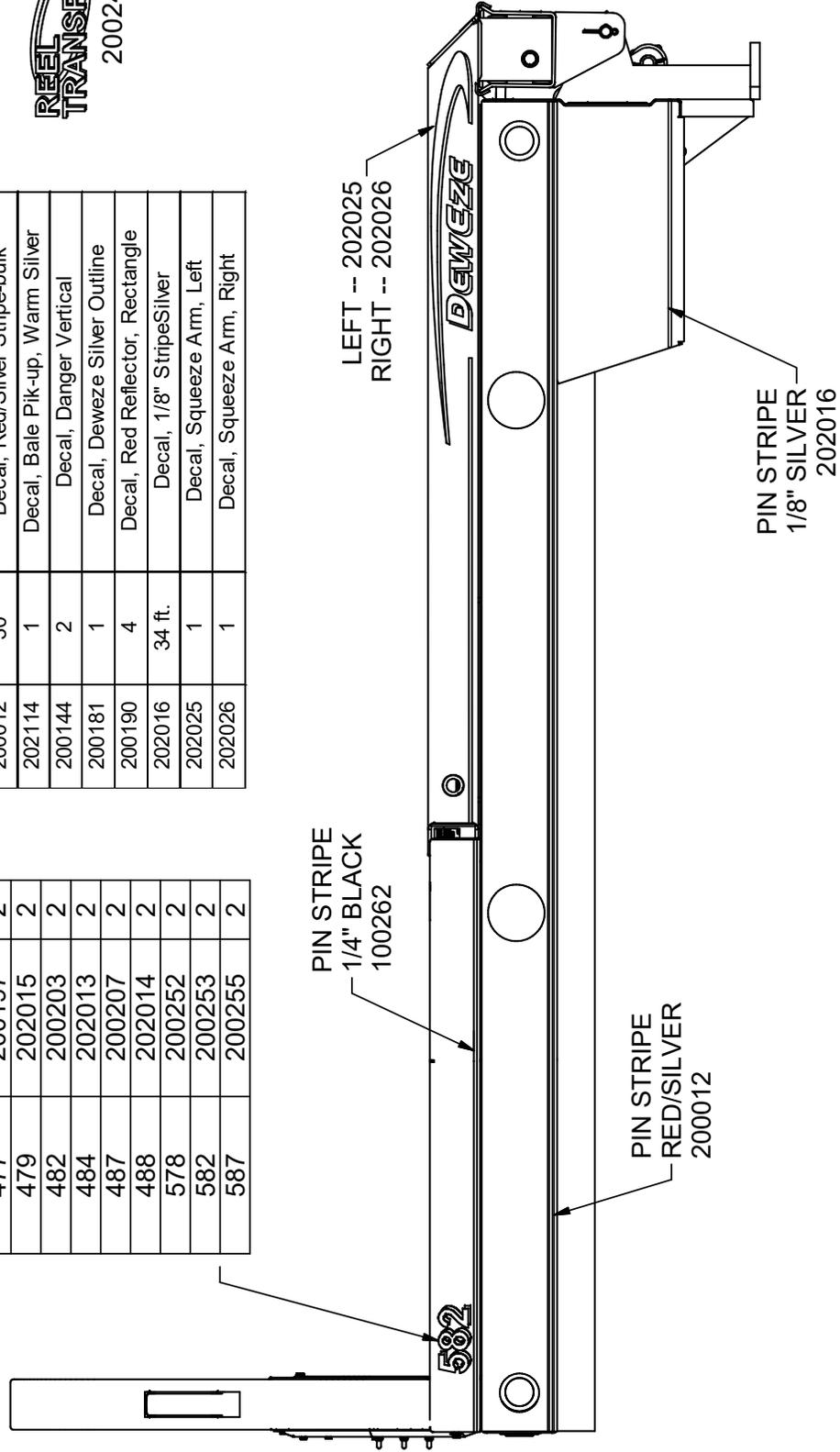
IT IS THE OWNER'S RESPONSIBILITY TO REPLACE MISSING OR DAMAGED WARNING DECALS. DECALS ARE AVAILABLE FROM YOUR DEALER OR FROM THE DEWEZE FACTORY.

# 400 & 500 Series Decals



| 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        |

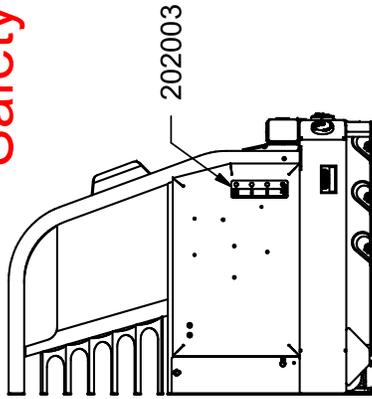
| Model # Decals |        |     |
|----------------|--------|-----|
| Left & Right   | Part # | Qty |
| 470            | 200193 | 2   |
| 475            | 200195 | 2   |
| 477            | 200197 | 2   |
| 479            | 202015 | 2   |
| 482            | 200203 | 2   |
| 484            | 202013 | 2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



6/29/2021

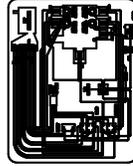
# Decals Safety & Operation

| 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 |

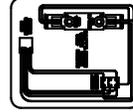


202003

INSIDE OF VALVE COVER  
2 BANK  
3rd BANK



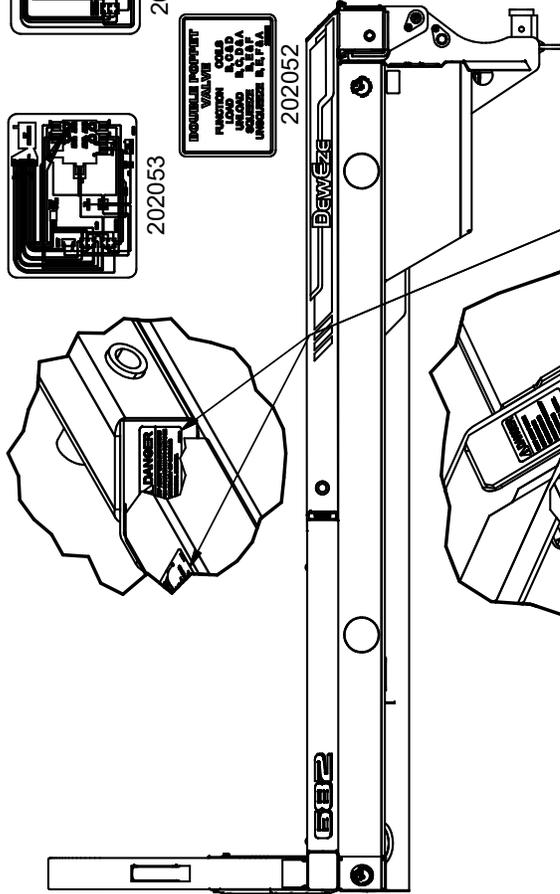
202053



202054



202052



200010  
BOTH SIDES  
200144

200190

**⚠ DANGER**

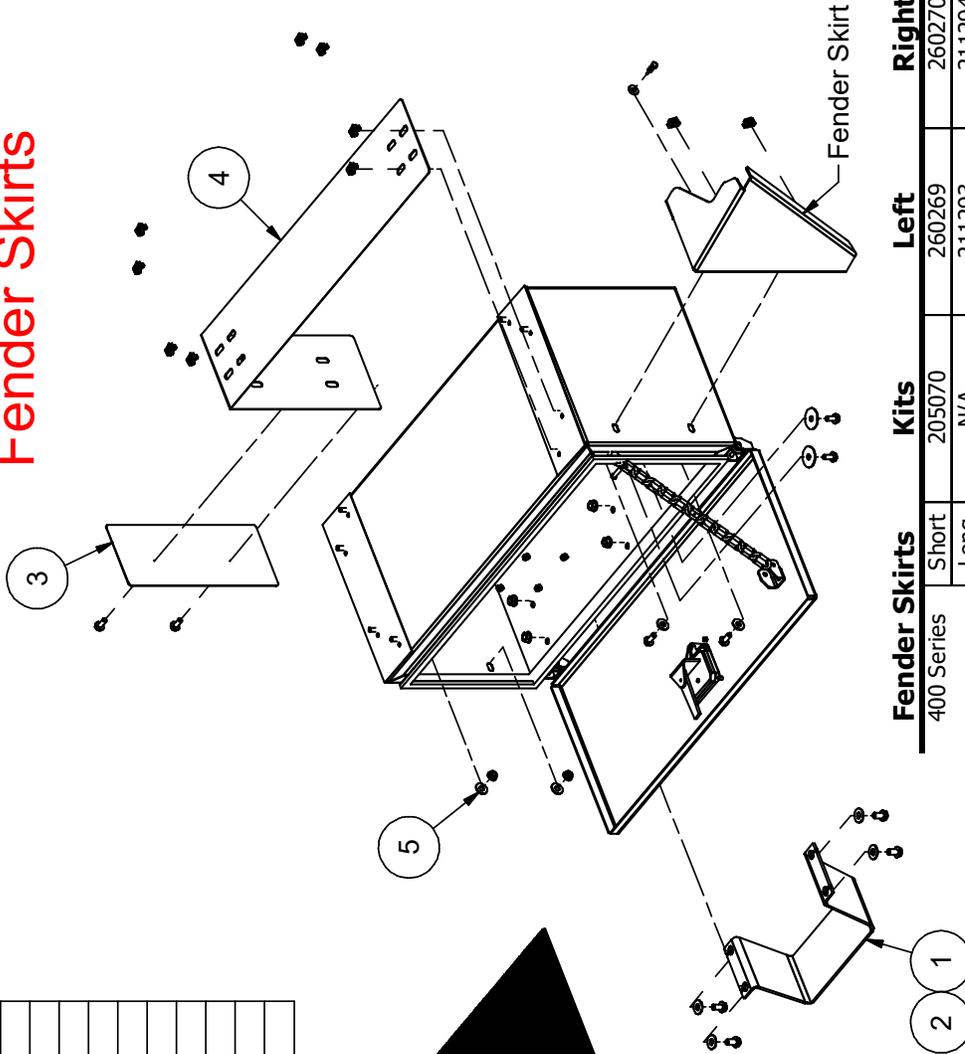
KEEP AWAY WHILE MACHINE IS IN OPERATION TO REDUCE POSSIBILITY OF SERIOUS PERSONAL INJURY.

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

**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 |

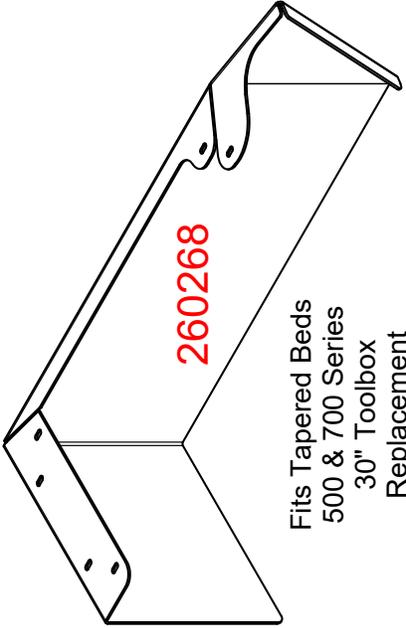
7/19/2023

# Front Skirt Toolbox Replacement



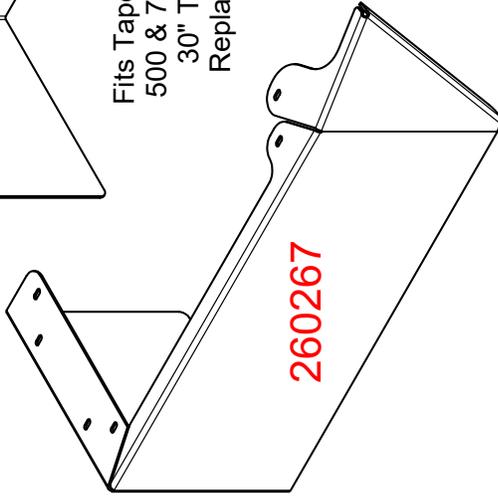
**215116**

Bolt Kit  
1ea Required  
Per Fenderskirt

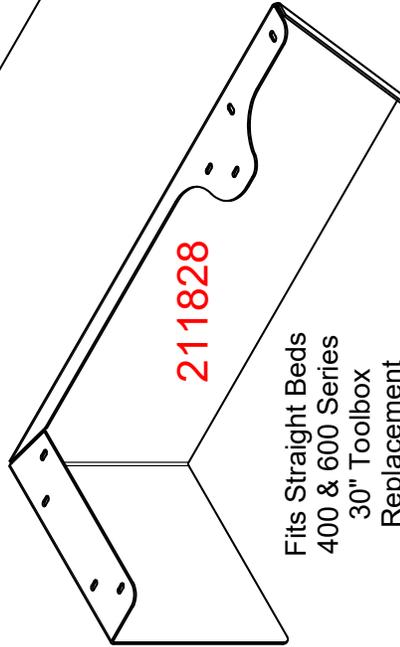


**260268**

Fits Tapered Beds  
500 & 700 Series  
30" Toolbox  
Replacement

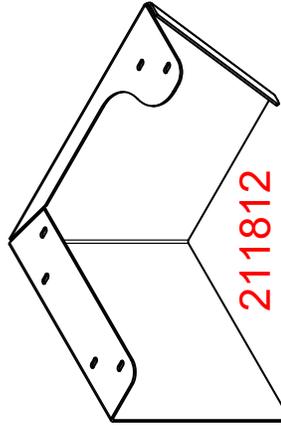


**260267**



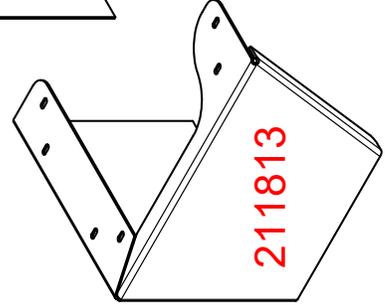
**211828**

Fits Straight Beds  
400 & 600 Series  
30" Toolbox  
Replacement

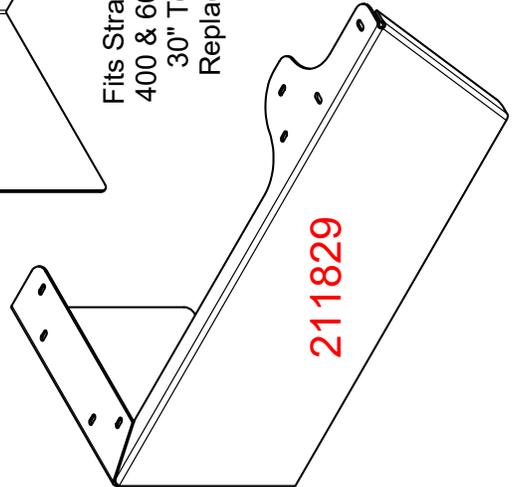


**211812**

Fits Short Beds  
20" Toolbox  
Replacement



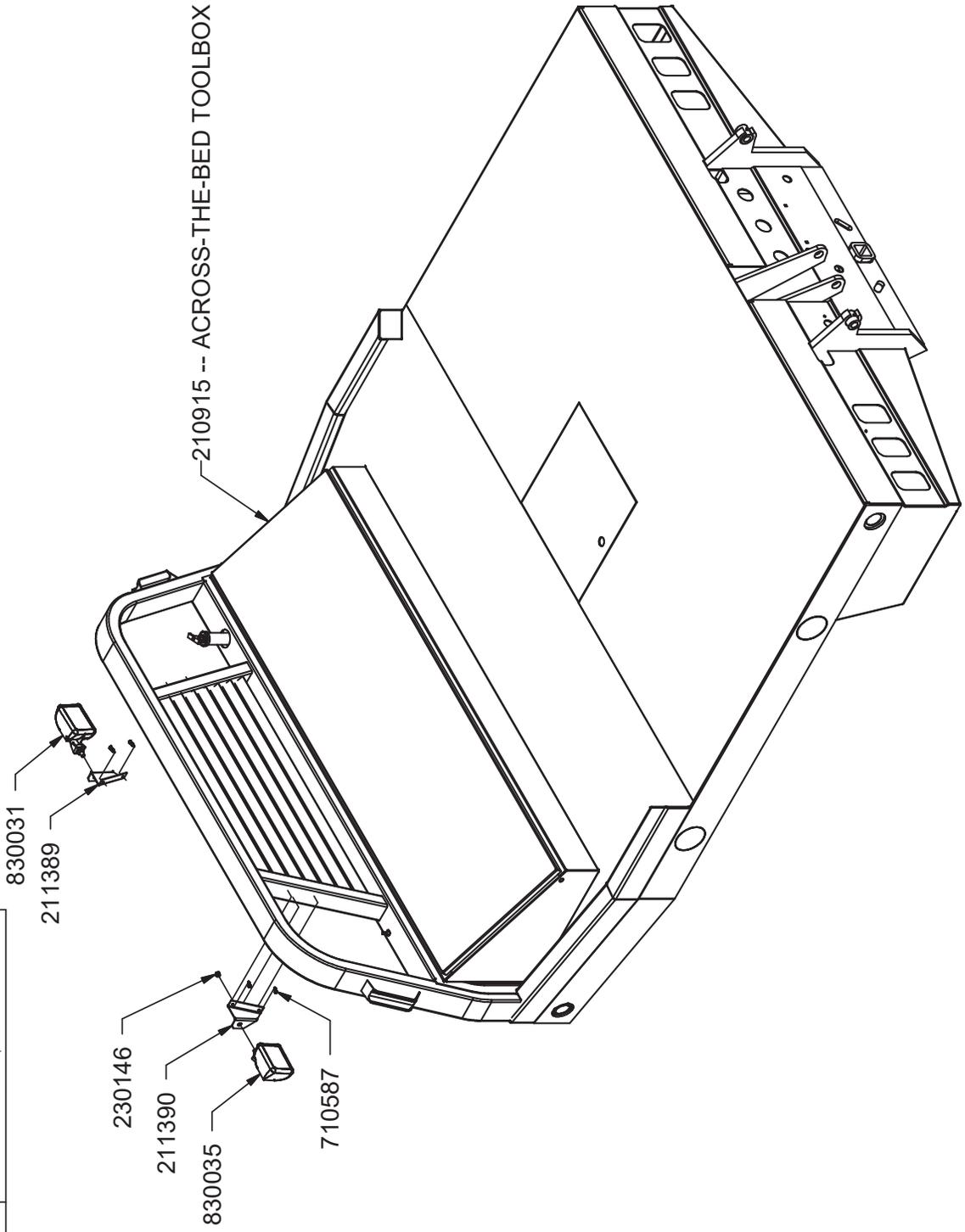
**211813**



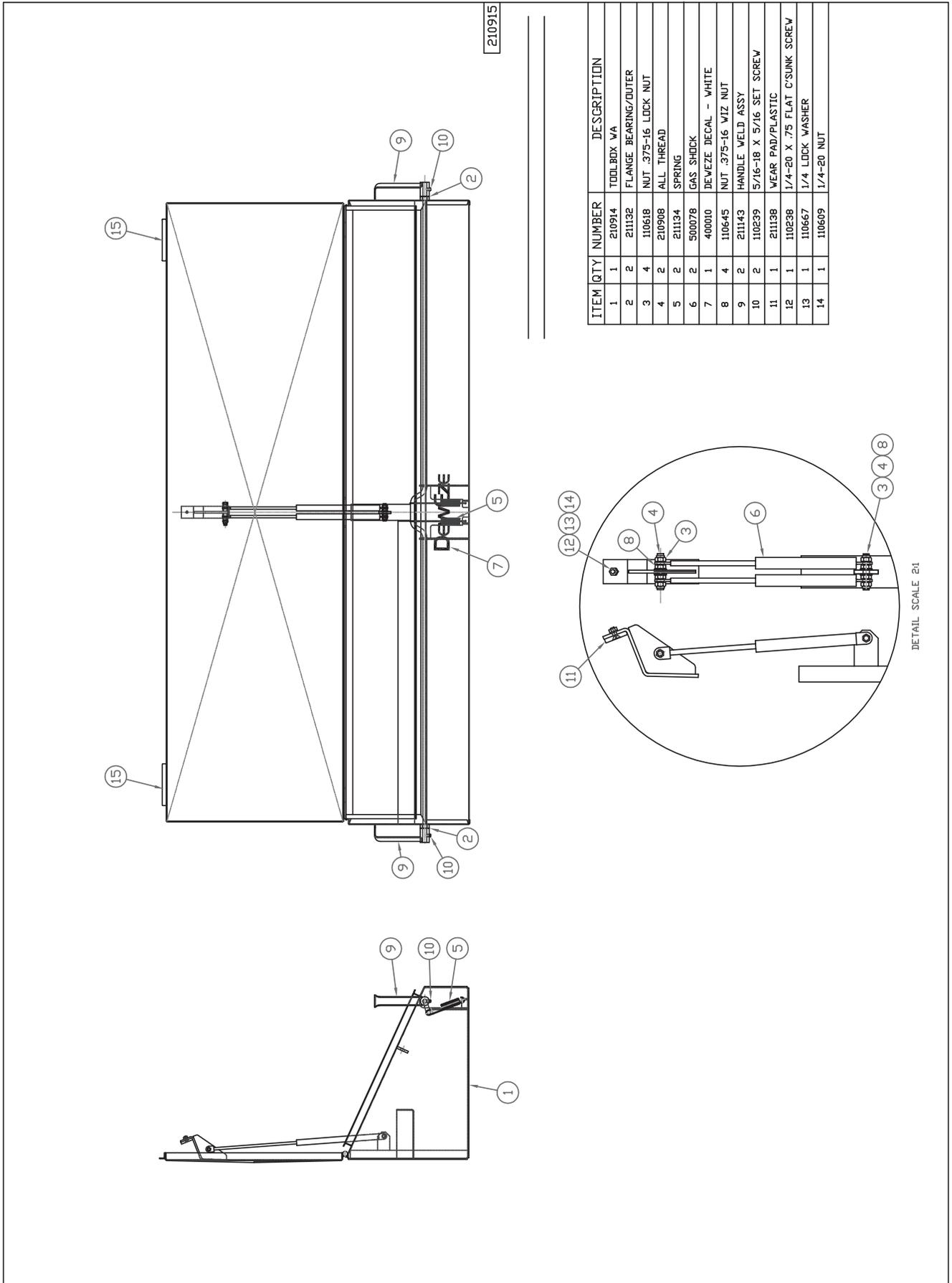
**211829**

# FLATBED ACCESSORIES CARGO LIGHTS & ACROSS THE BED TOOLBOX

| 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                    |

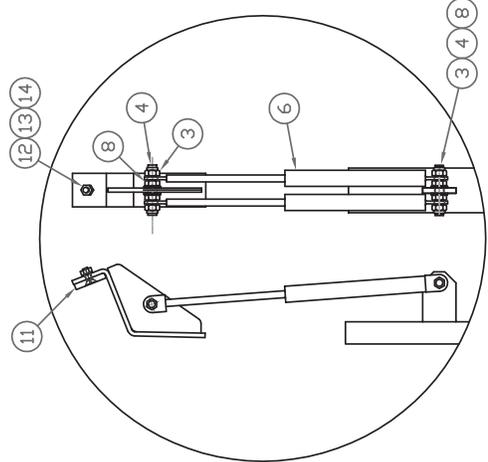


9/16/03



210915

| ITEM | QTY | NUMBER | DESCRIPTION                    |
|------|-----|--------|--------------------------------|
| 1    | 1   | 210914 | TOOL BDX WA                    |
| 2    | 2   | 21132  | FLANGE BEARING/OUTER           |
| 3    | 4   | 110618 | NUT .375-16 LOCK NUT           |
| 4    | 2   | 210908 | ALL THREAD                     |
| 5    | 2   | 21134  | SPRING                         |
| 6    | 2   | 500078 | GAS SHOCK                      |
| 7    | 1   | 400010 | DEWEZE DECAL - WHITE           |
| 8    | 4   | 110645 | NUT .375-16 WIZ NUT            |
| 9    | 2   | 21143  | HANDLE WELD ASSY               |
| 10   | 2   | 110239 | 5/16-18 X 5/16 SET SCREW       |
| 11   | 1   | 211138 | WEAR PAD/PLASTIC               |
| 12   | 1   | 110238 | 1/4-20 X .75 FLAT C/SUNK SCREW |
| 13   | 1   | 110667 | 1/4 LOCK WASHER                |
| 14   | 1   | 110609 | 1/4-20 NUT                     |

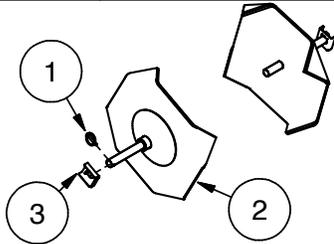


DETAIL SCALE 2:1

# Spinners & Risers

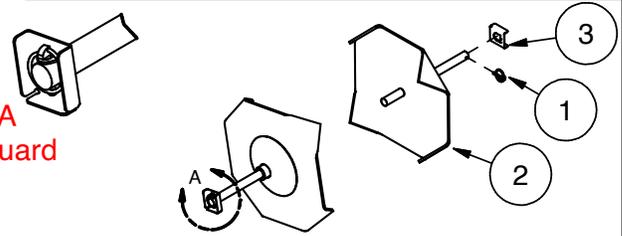
## Spinner Assy 16" Pair, Part# 210008

| 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        |



## Spinner Assy 16" Pair, XRM, Part #215007

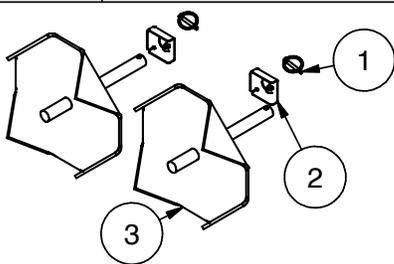
| ITEM | QTY | PART # | DESCRIPTION               |
|------|-----|--------|---------------------------|
| 1    | 2   | 210006 | Pin, Lynch 1/4 x 1 1/2    |
| 2    | 2   | 211509 | WELDMENT, SPINNER 16" XRM |
| 3    | 2   | 211513 | LYNCH PIN GUARD           |



DETAIL A  
Lynch Pin Guard

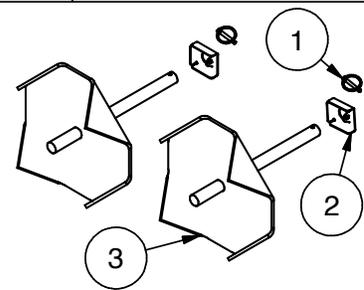
## Spinner Assy 12" Pair, Part# 215081

| 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"  |



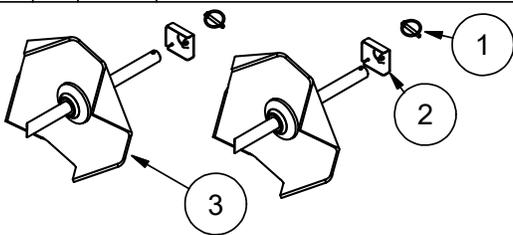
## Spinner Assy 12" Pair, XRM, Part# 215234

| 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 |



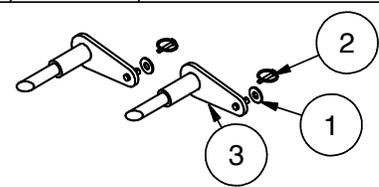
## Spinner Assy, 12" Swivel Pair Part# 205077

| 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) |



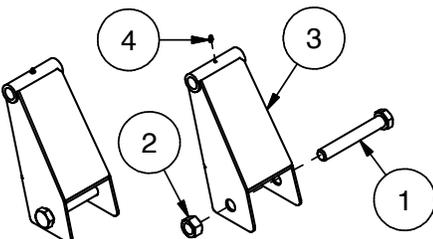
## Spinner Extension Pair, Part # 205076

| 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  |



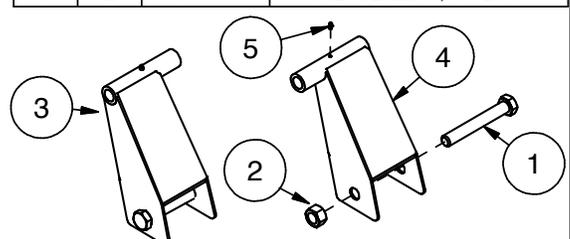
## Riser, Offset Pair, Part# 211145

| ITEM | QTY | PART # | DESCRIPTION            |
|------|-----|--------|------------------------|
| 1    | 2   | 110364 | BOLT, 1-8 X 7.0        |
| 2    | 2   | 110601 | NUT, 1-8               |
| 3    | 2   | 211125 | RISER WELD ASSY        |
| 4    | 2   | 510174 | GREASE ZERK, 1/4-28 ST |

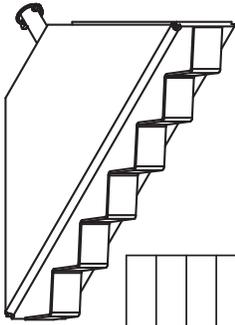


## Riser, Offset Pair, XRM, Part# 215006

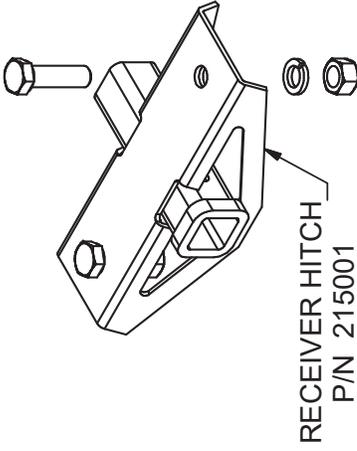
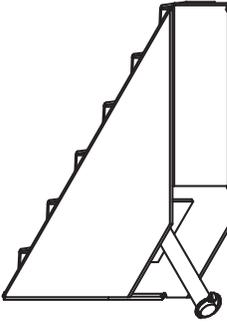
| ITEM | QTY | PART # | DESCRIPTION            |
|------|-----|--------|------------------------|
| 1    | 2   | 110364 | BOLT, 1-8 X 7.0        |
| 2    | 2   | 110601 | NUT, 1-8               |
| 3    | 1   | 211507 | LEFT RISER WELD ASSY   |
| 4    | 1   | 211508 | RIGHT RISER WELD ASSY  |
| 5    | 2   | 510174 | GREASE ZERK, 1/4-28 ST |



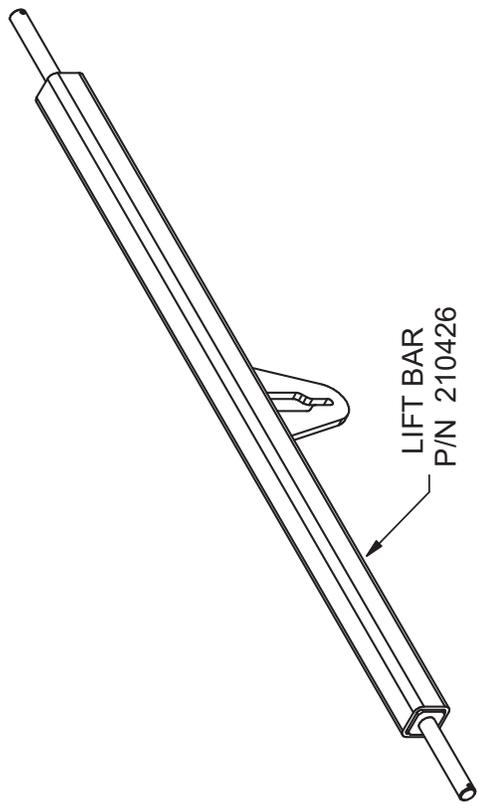
# OTHER ACCESSORIES



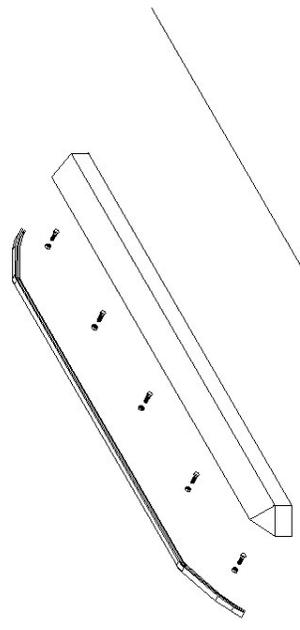
| ADAPTER ASSY 210933 |                        |
|---------------------|------------------------|
| PART #              | DESCRIPTION            |
| 210929              | 4' BALE ADAPTER        |
| 210006              | Pin, Lynch 1/4 x 1 1/2 |



RECEIVER HITCH  
P/N 215001

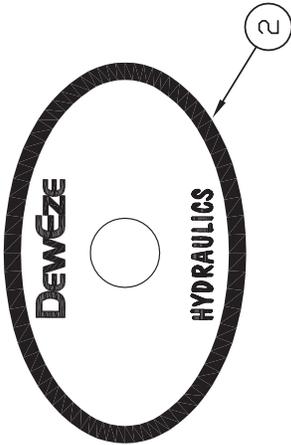


LIFT BAR  
P/N 210426

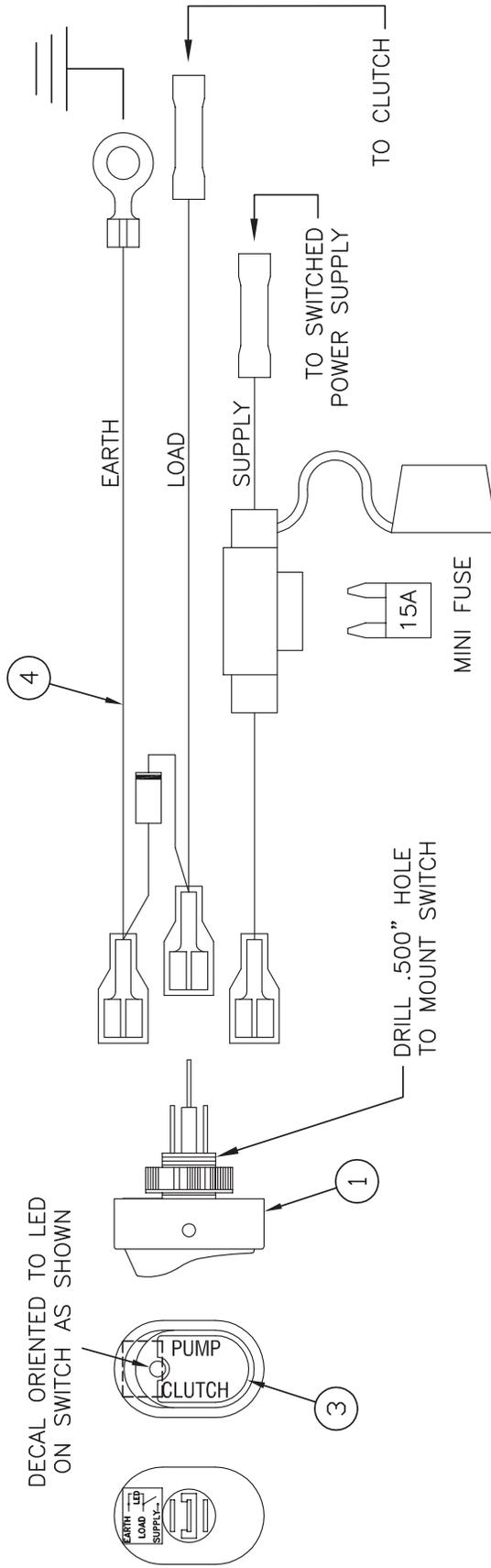


211480 FENDER KIT  
211439 FENDER WELDMENT  
211481 EDGE TRIM

| 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



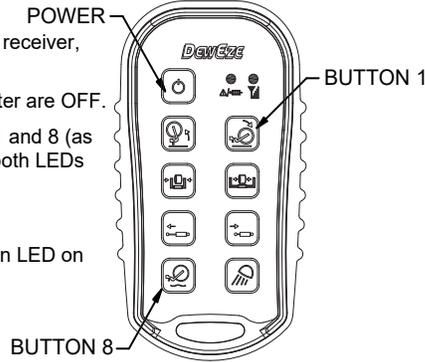
# Appendix I

## 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.

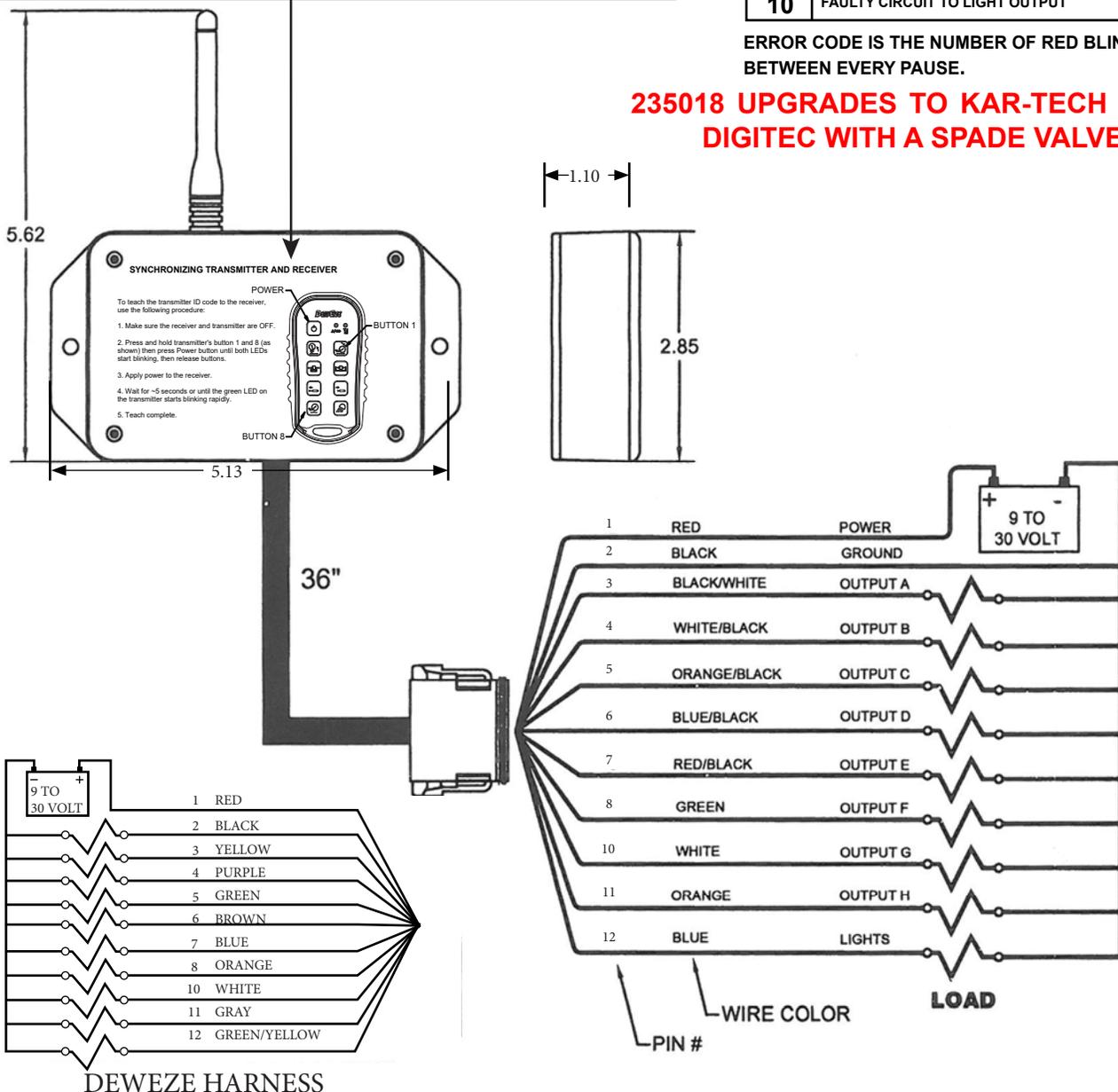


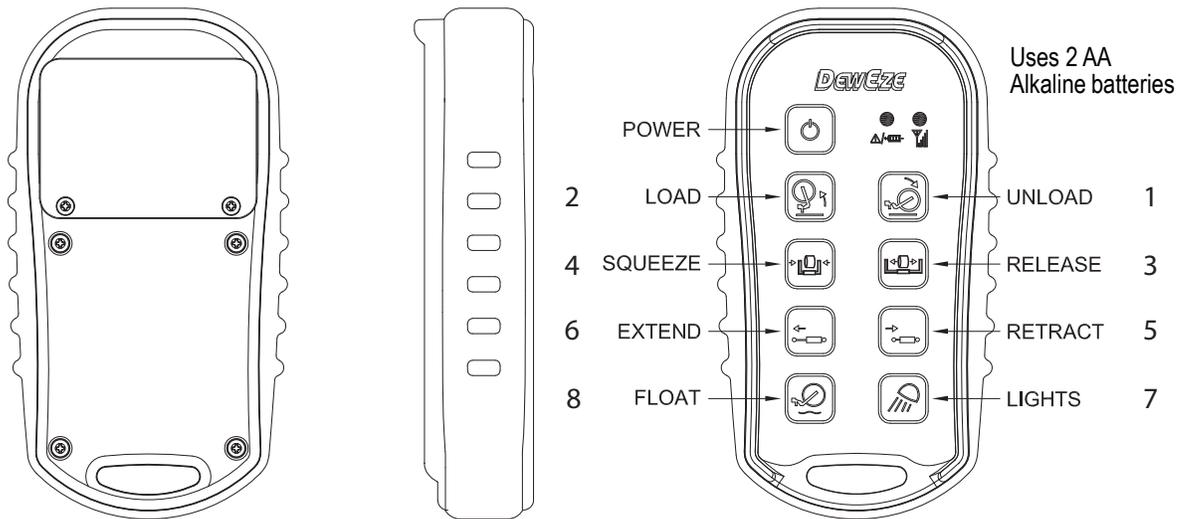
### TRANSMITTER ERROR CODE CHART

| 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.

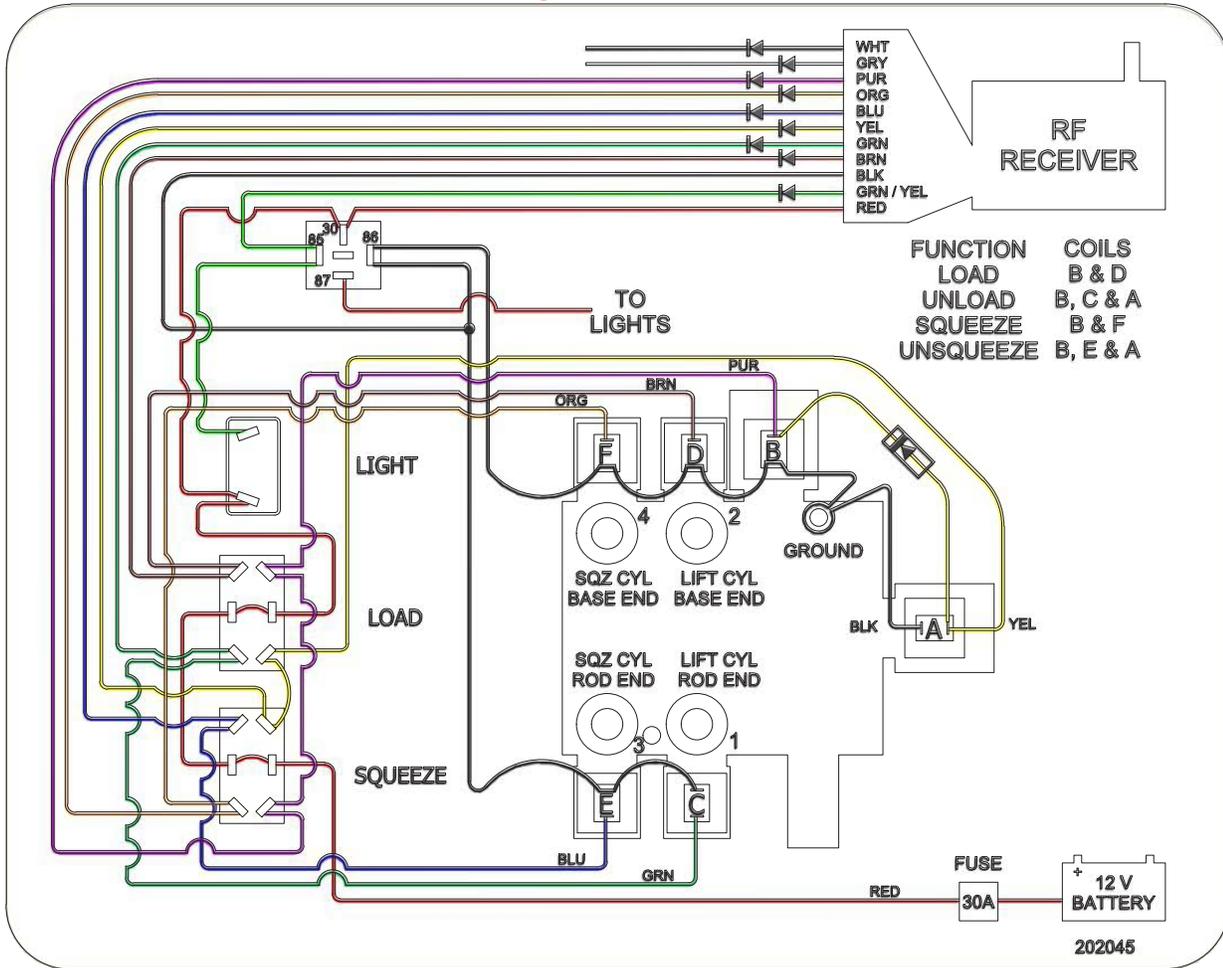
##### BALE BED

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:

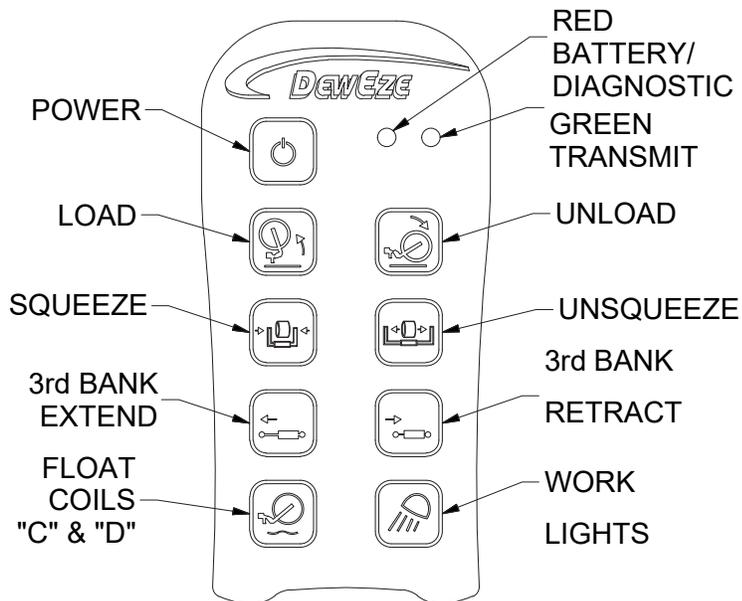
RF Transmit power (EIRP): 10 mW  
 RF Frequency: 902-928 MHz  
 Operating temperature - Radio: -40C to +85C  
 Battery life (min): 30 hours continuous.  
 Vibration: 3G to 200Hz  
 Outputs: 5A max each (20A system max)

## 2 Bank Wiring, Kar-Tech Remote



Decal Part# 202045

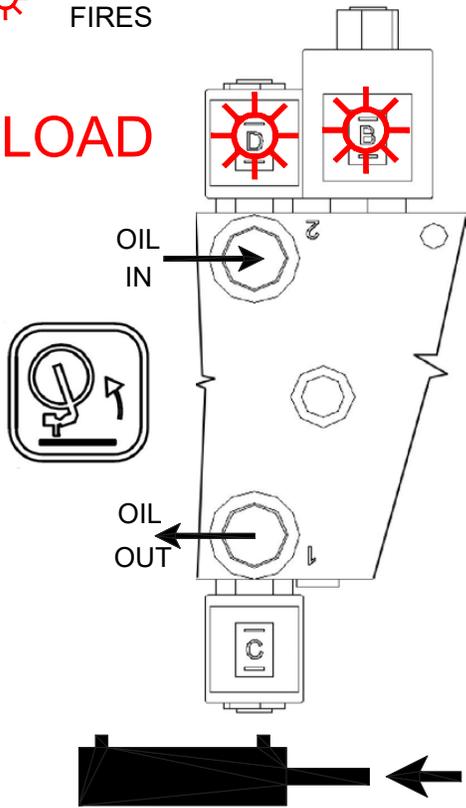
Harness Part# 232087



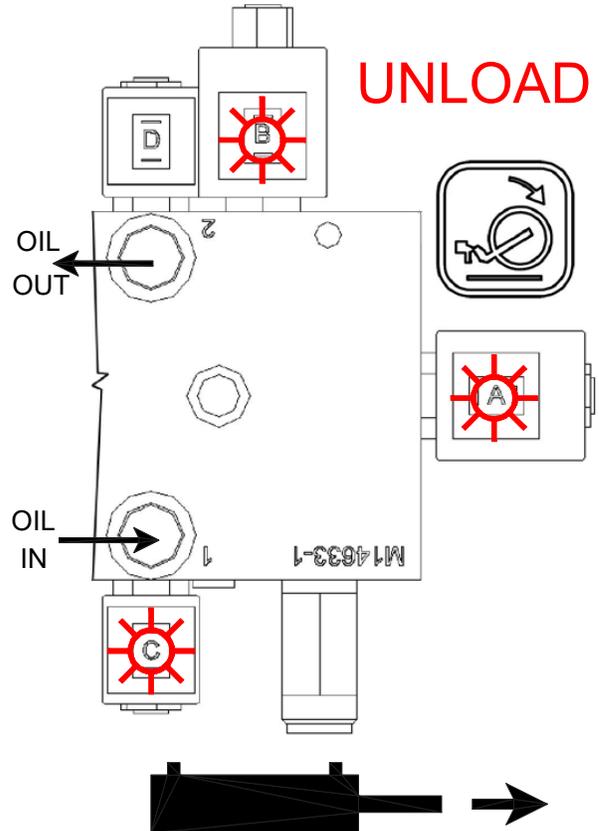
3/11/2011

 SOLENOID FIRES

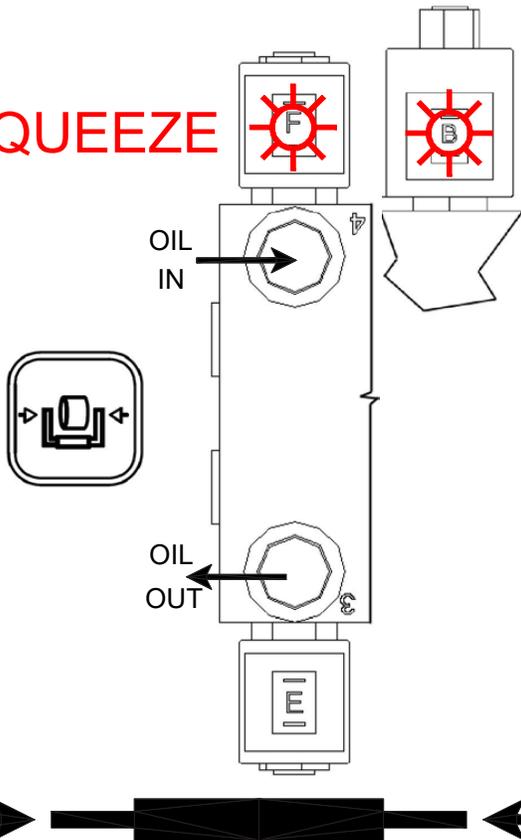
**LOAD**



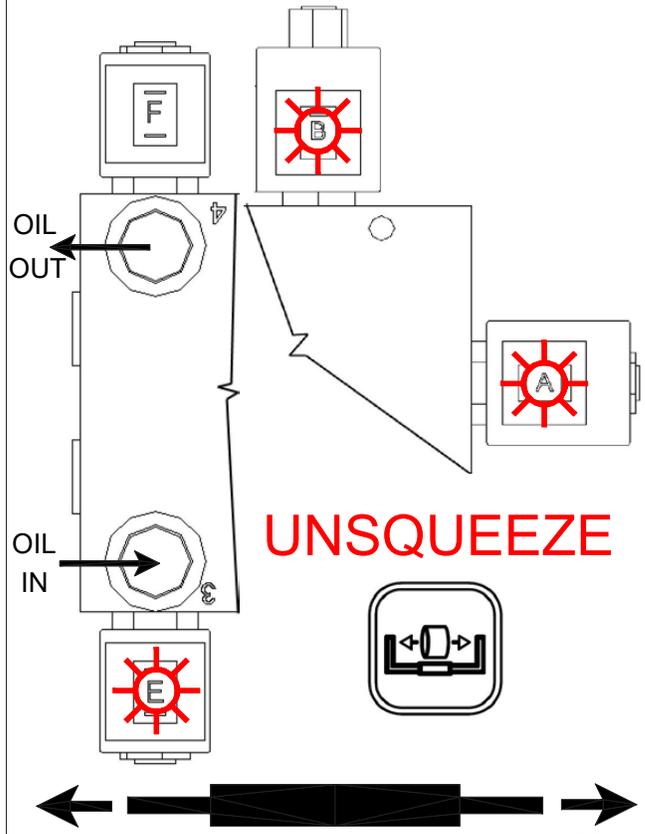
**UNLOAD**



**SQUEEZE**

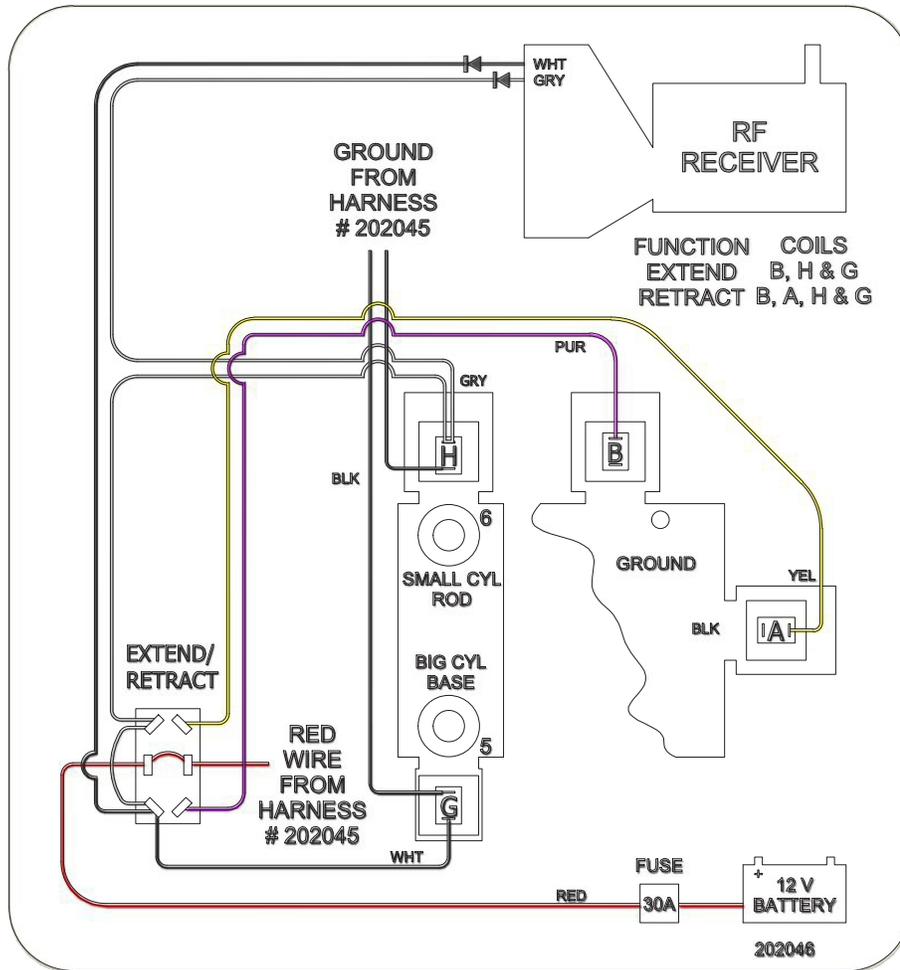


**UNSQUEEZE**



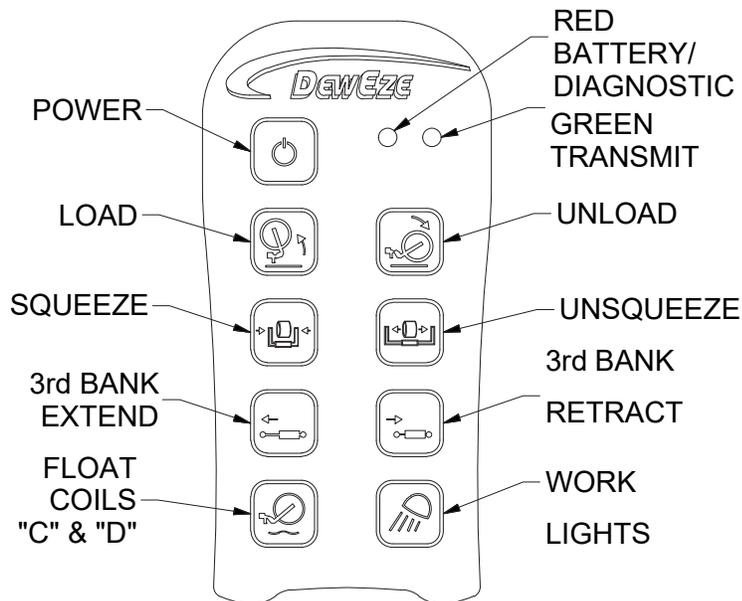
3/11/2011

# 3rd Bank Wiring, Kar-Tech Remote



Decal Part# 202046

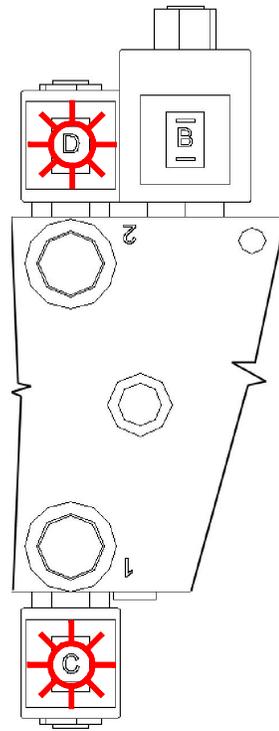
Harness Part# 232088



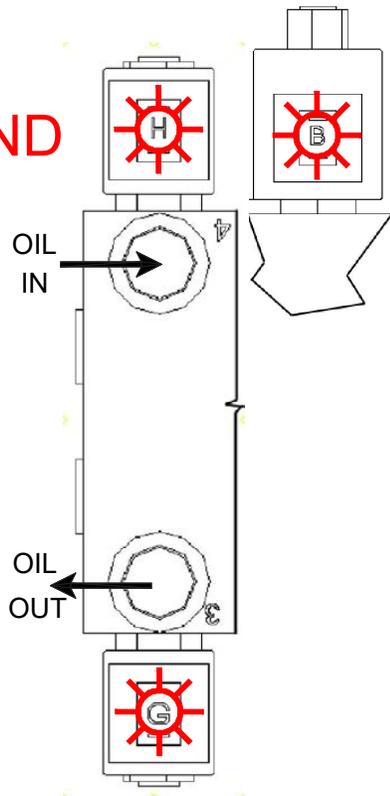
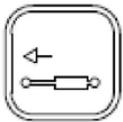
3/11/2011

 SOLENOID FIRES

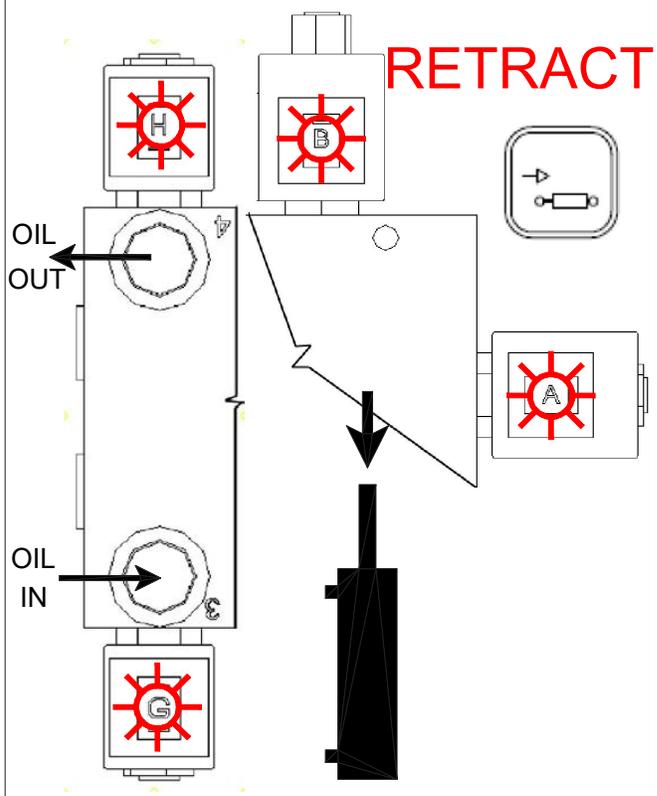
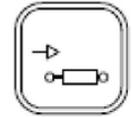
FLOAT



EXTEND

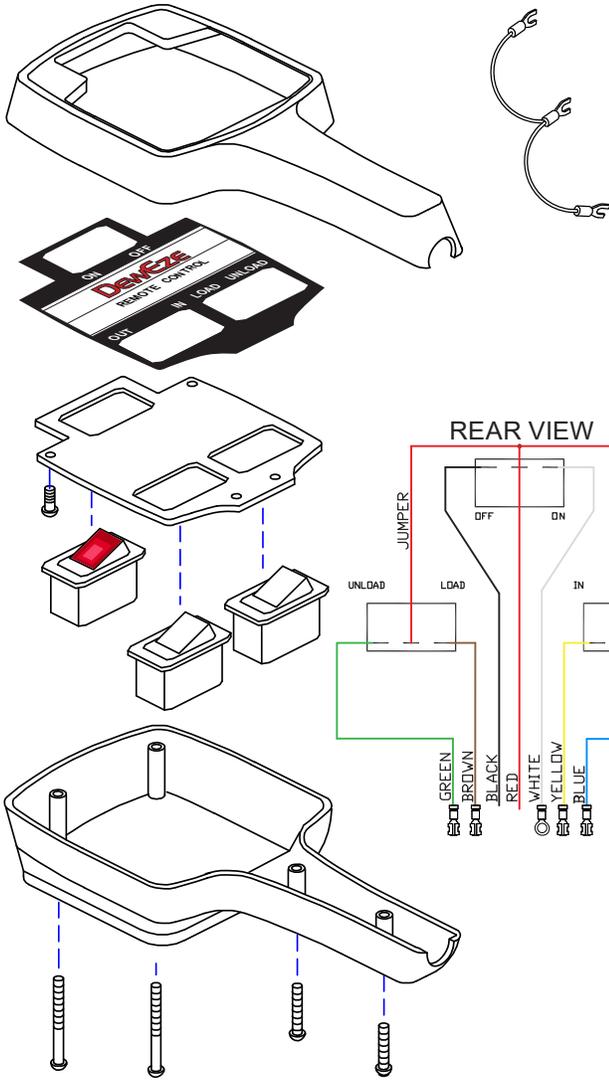


RETRACT



3/11/2011

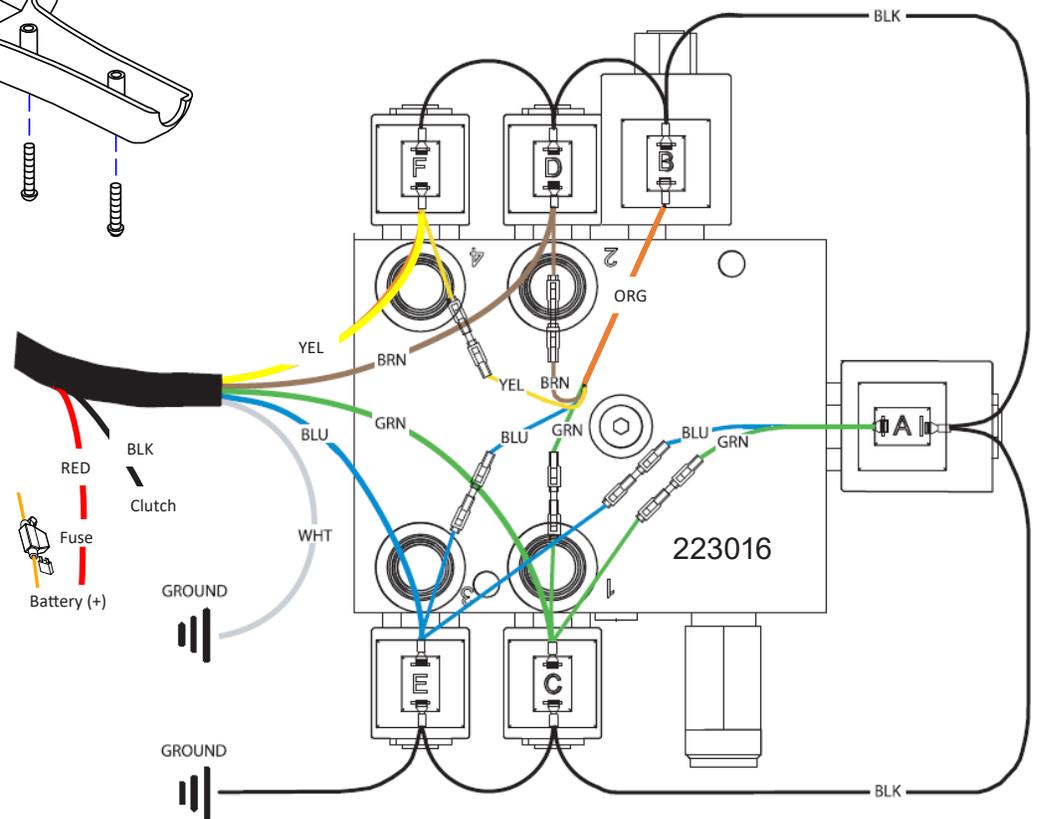
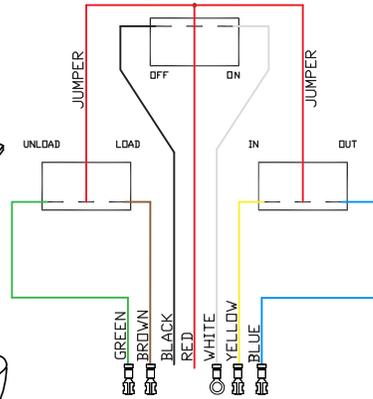
# CORDED: 2 BANK GEN II (SMALL MONOBLOCK, SPADE)



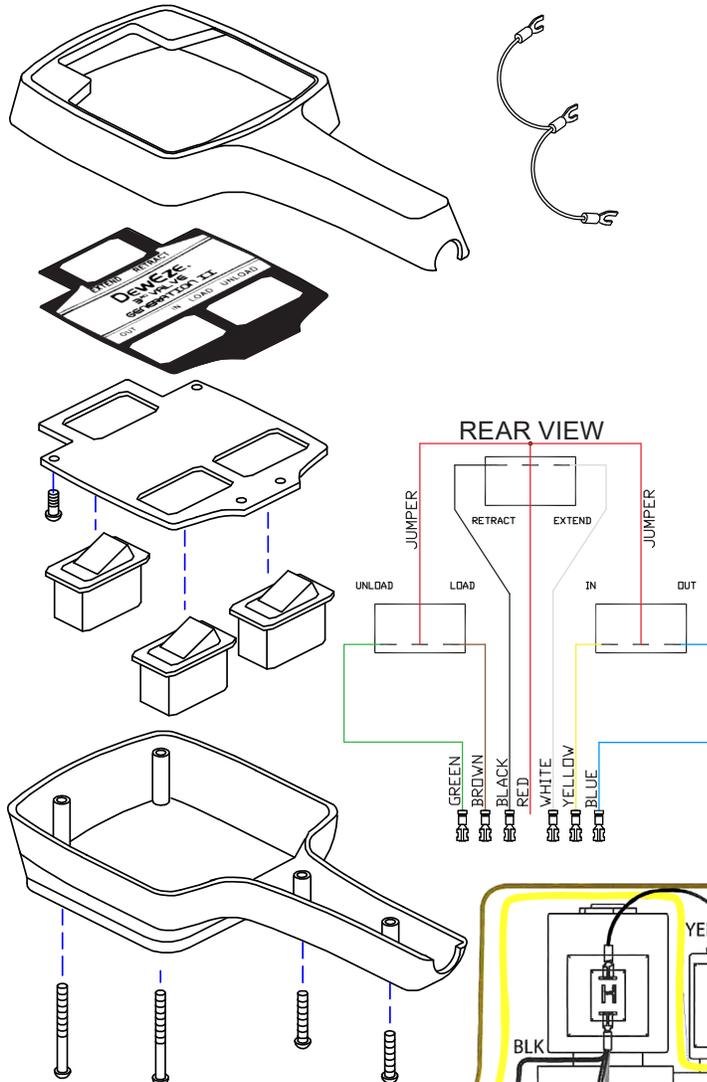
| Parts List |     |        |                               |
|------------|-----|--------|-------------------------------|
| ITEM       | QTY | PART # | DESCRIPTION                   |
| 1          | 1   | 130001 | Rocker Switch w/Light         |
| 2          | 2   | 130002 | Rocker Switch Momentary       |
| 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 |

REAR VIEW

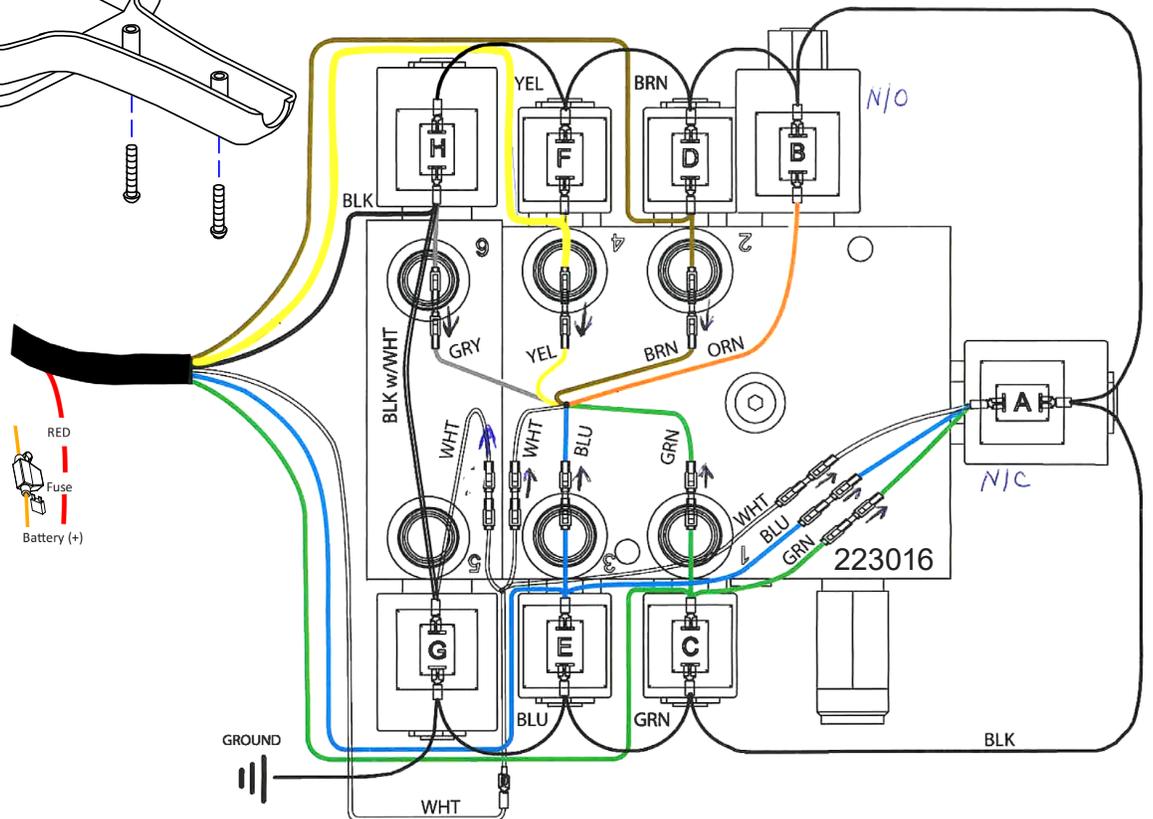


# CORDED: XRM 3 BANK GEN II (SMALL MONOBLOCK, SPADE)



| 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 Coded |



## DIGITEC REMOTES ARE OBSOLETE.

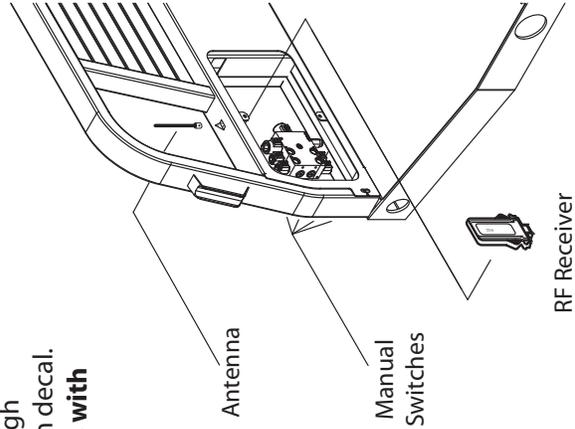
**DewEze no longer supplies parts for Digitec systems. If troubleshooting cannot fix an issue, using a corded remote or upgrading to a KAR-TECH system may be necessary.**

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.

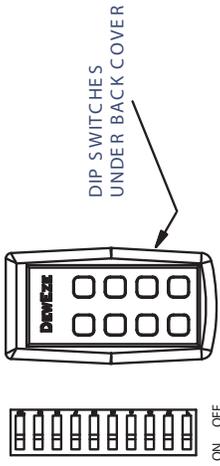
**NOTE:** Metal objects such as cake feeders or fuel tanks may interfere with radio waves from transmitter. The antenna may be moved to the top of the headache rack, or a second antenna may be installed in a different location to increase reception.

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.

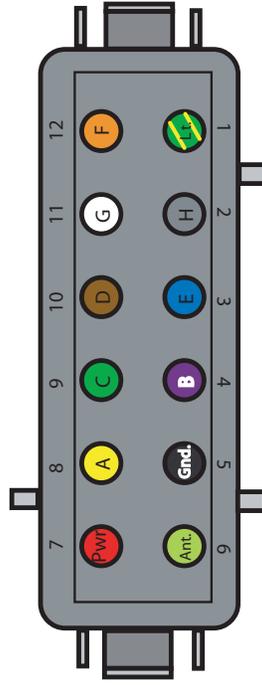


5. Set dip switches in transmitter to match dip switches in receiver. Use serial no. stickers to record ON/OFF positions and attach to both receiver and transmitter for future reference.



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)

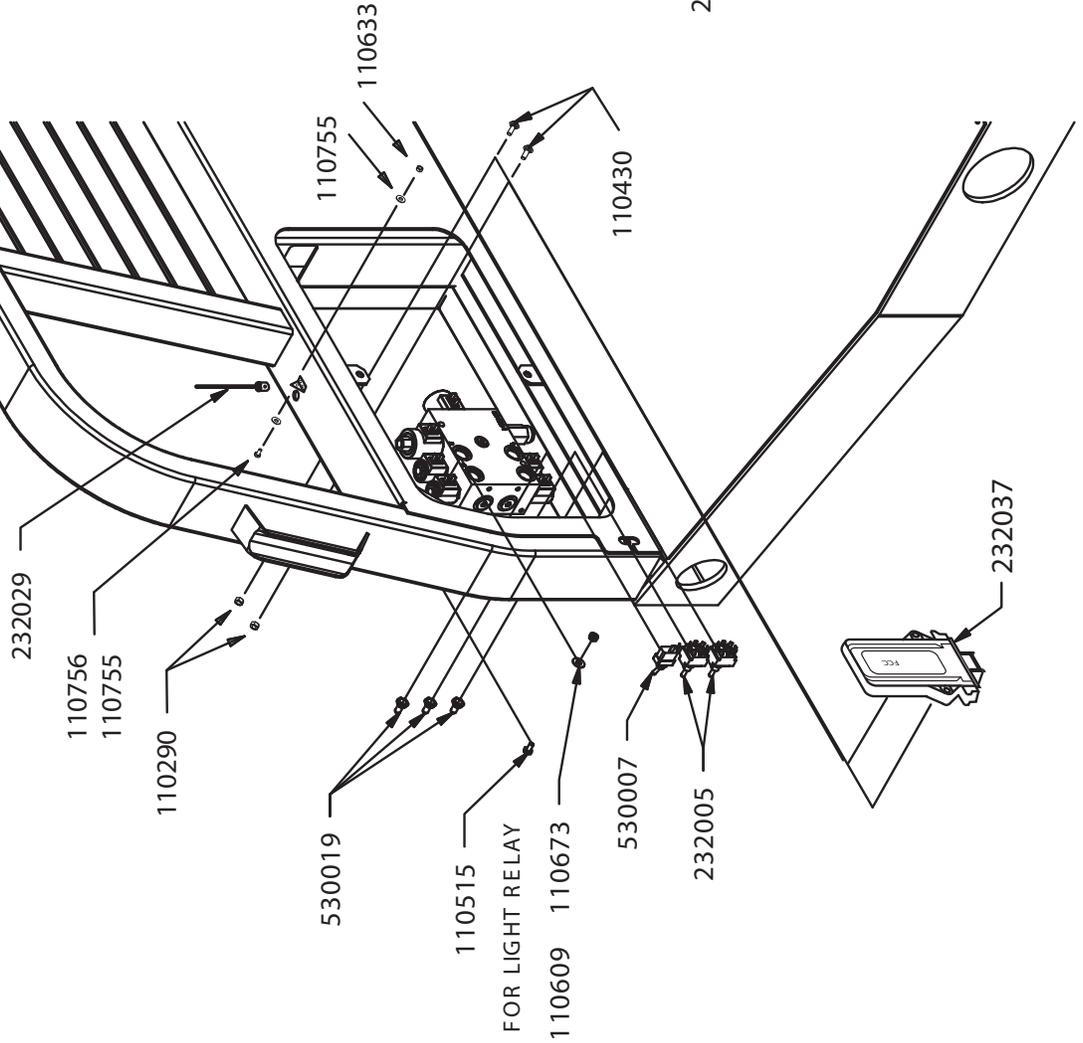


7. Connect the colored wires to the valve as indicated below. See the following wiring diagrams for 2 and 3 bank wiring.

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

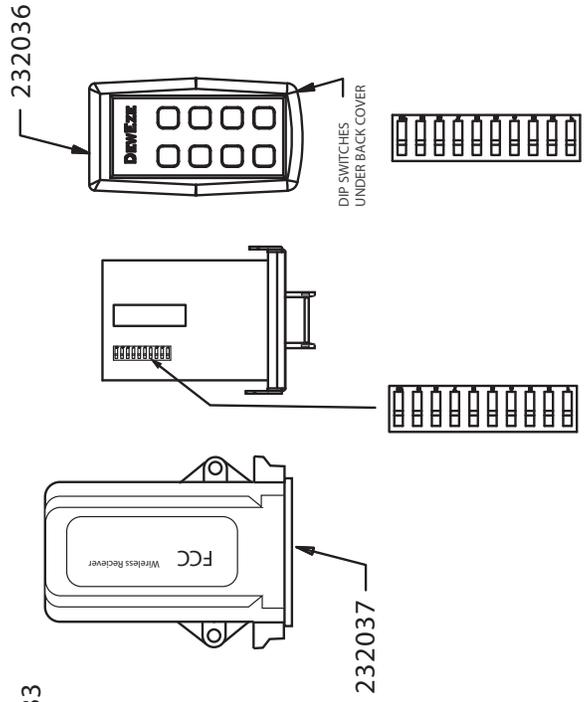
- Connect to LT GREEN/YELLOW WIRE from LIGHT RELAY
- Connect to VALVE H (3rd bank option only)
- Connect to VALVE E
- Hook to PURPLE SWITCH WIRE and Connect to VALVE B
- Connect to GROUND
- Connect to ANTENNA\*\*
- Connect to POWER
- Connect to VALVE A
- Connect to VALVE C
- Hook to BROWN SWITCH WIRE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

# RF CONTROL & MANUAL SWITCHES



## Parts List

| PART # | QUANTITY | DESCRIPTION                      |
|--------|----------|----------------------------------|
| 110515 | 1        | BOLT, 1/4-20 X .50               |
| 110609 | 1        | NUT, 1/4-20                      |
| 110673 | 1        | WASHER, 1/4" FLAT STANDARD       |
| 110290 | 2        | NUT, 1/4-20 WIZ FLANGE           |
| 110430 | 2        | BOLT, 1/4-20 X 1.25              |
| 232005 | 2        | TOGGLE SWITCH - 3 POS MOMENTARY  |
| 232036 | 1        | TRANSMITTER, RF, VER 2, DIGITEC  |
| 232037 | 1        | RECEIVER, RF, VER 2, DIGITEC     |
| 530007 | 1        | TOGGLE SWITCH - 2 POS MAINTAINED |
| 530019 | 3        | SWITCH BOOT                      |
| 232029 | 1        | ANTENNA, 5", JOINTED             |
| 110756 | 1        | SCREW, 6-32 X .5 PAN HEAD PHL P  |
| 110755 | 3        | WASHER, #6 SHOULDER, NYLON       |
| 110633 | 1        | NUT, 6-32                        |



DIP SWITCHES IN RECEIVER AND TRANSMITTER MUST BE SET THE SAME

11/04



# DewEZE

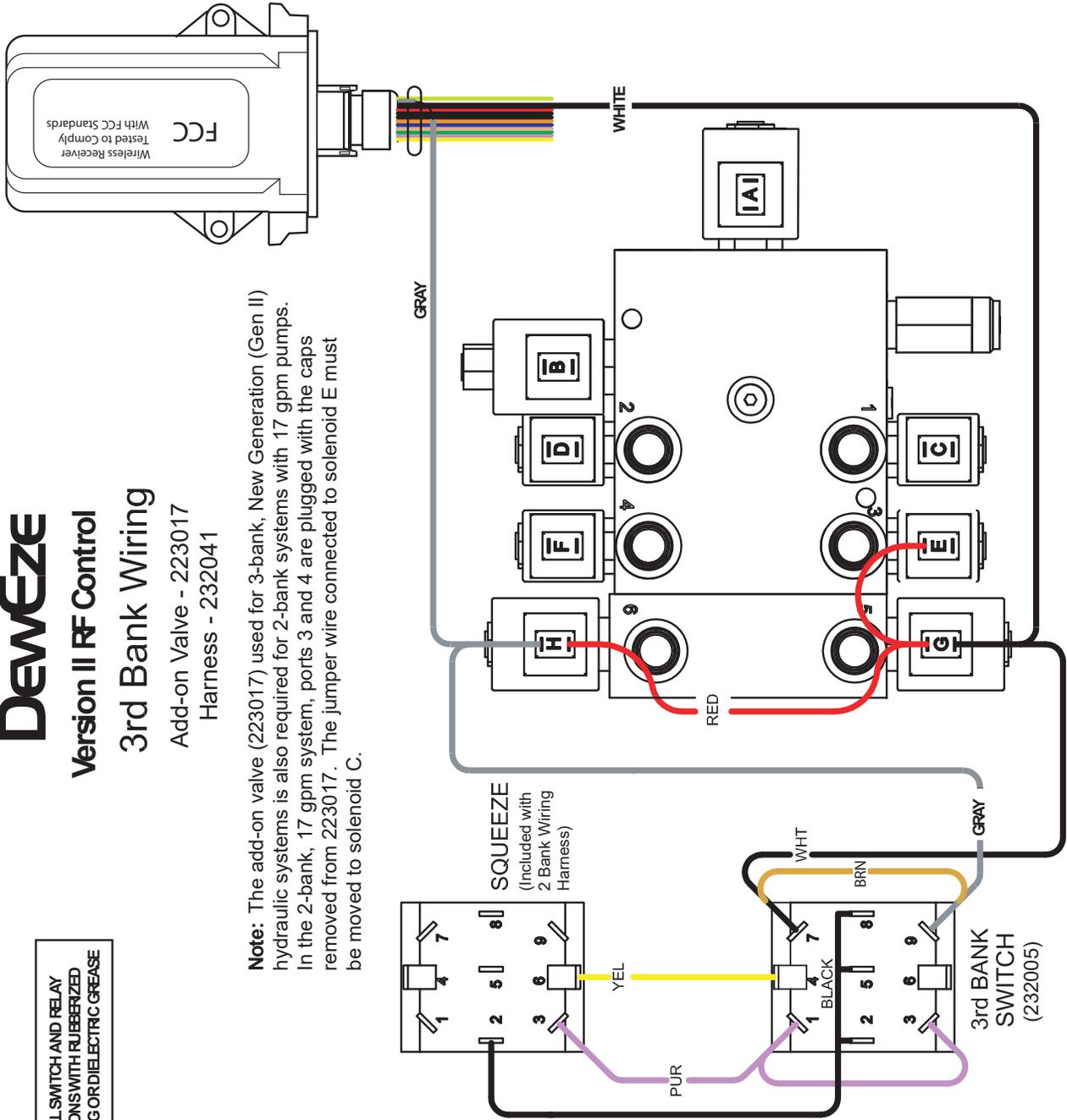
## Version II RF Control

### 3rd Bank Wiring

Add-on Valve - 223017  
 Harness - 232041

**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.

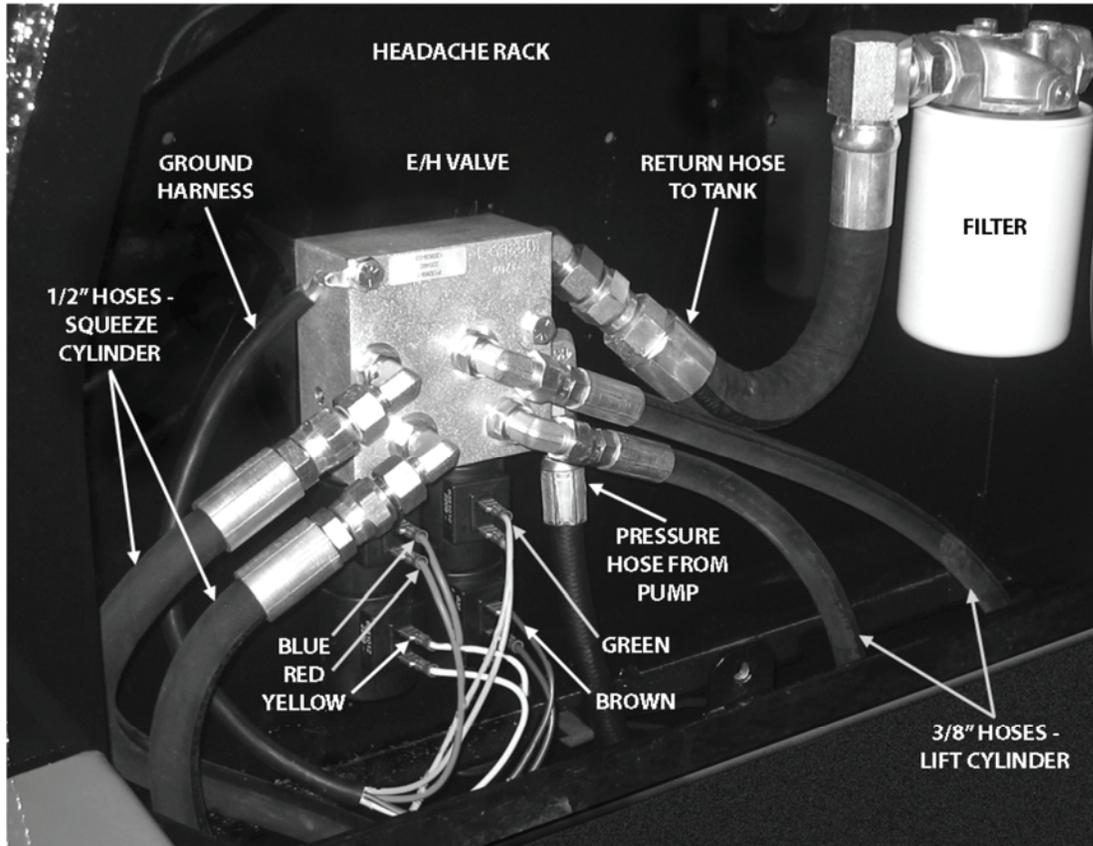
COVER ALL SWITCH AND RELAY CONNECTIONS WITH RUBBERIZED UNDERCOATING OR DIELECTRIC GREASE



## Appendix II

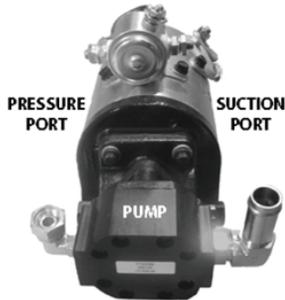
### Standard E/H Power Kit

#### E / H KIT INSTALLATION INSTRUCTIONS

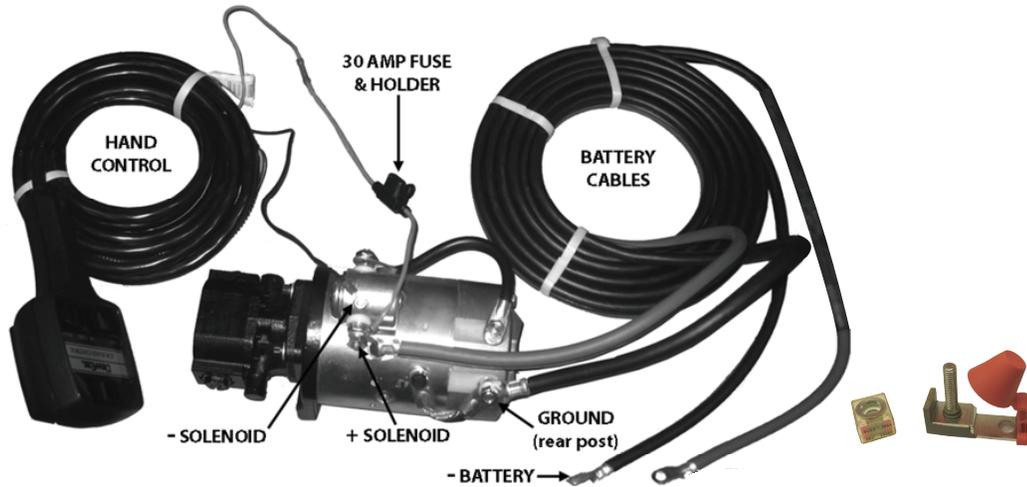
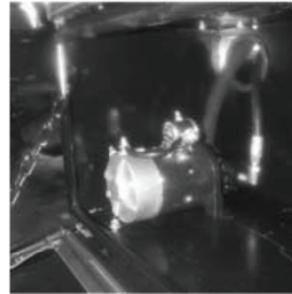


- 1) Attach adapters to E/H valve and install inside cavity on headache rack.
- 2) Attach return hose to valve and filter housing. Attach pressure hose from pump.
- 3) Attach blue and yellow wires from hand control to valve cartridge that controls squeeze cylinder as indicated.
- 4) Attach green and 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.



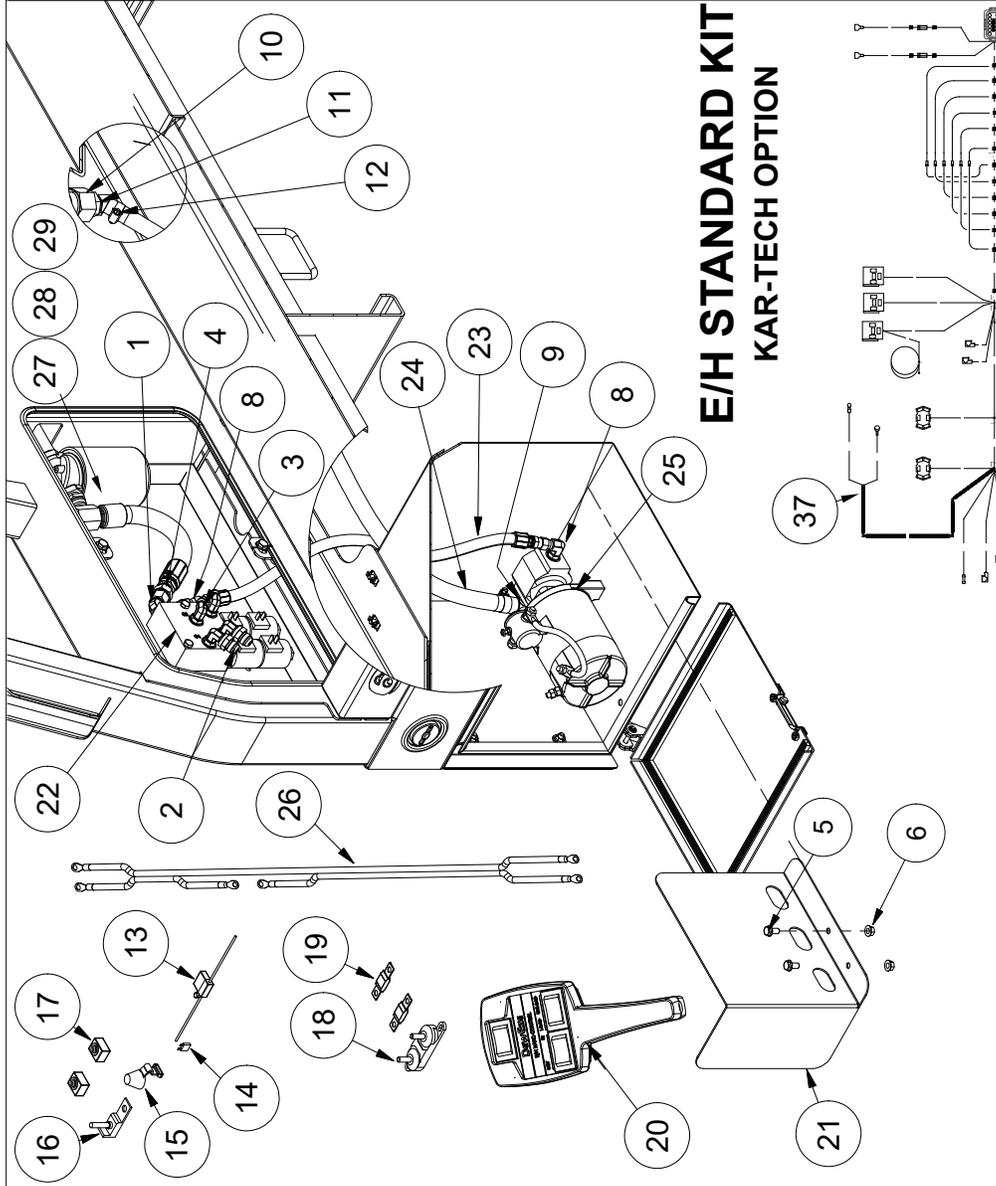
- 11) Attach suction hose and pressure hose to pump with adapters provided.
- 12) Attach suction hose to bottom of reservoir as indicated in diagram.
- 13) Attach black wire from hand control to negative terminal on solenoid.



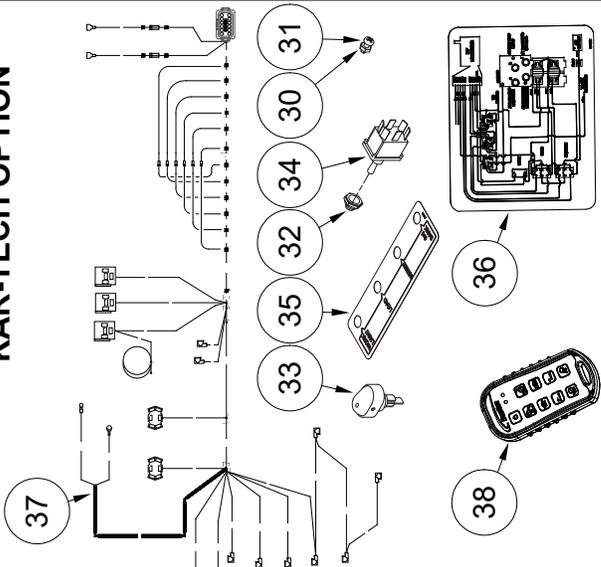
- 14a) Attach 30-amp fuse holder to positive terminal on solenoid and then to red wire from hand control.
- 14b) Attach 30-amp fuse holder to positive terminal on battery, run wire thru switch on dash. Then to red wire on valve harness for wireless remote.
- 15) Run battery cables through hold in toolbox 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 |   | Part # | DESCRIPTION  |
|------------|---|--------|--|
| 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 (old) Fuse Block, AMG |
| 19         | 2 | 232002 | (old) Fuse Blade, 200Amp                               |
| 20         | 1 | 150027 | Hand Control & Cable Assy, E/H                         |
| 21         | 1 | 211353 | Shield, E/H Manufactured                               |
| 22         | 1 | 220492 | Valve E/H Flatbed Purchased                            |
| 23         | 2 | 210871 | Cartridge  |
| 24         | 4 | 820229 | Coil, Spade  |
| 25         | 1 | 220508 | Hose .37 X 50.44 6mp/6mp                               |
| 26         | 1 | 220603 | Hose .75 X 54  |
| 27         | 1 | 230140 | E/H Motor Pump/Unit, Standard Duty 12                  |
| 28         | 1 | 210884 | Motor  |
| 29         | 1 | 220651 | Pump   |
| 30         | 1 | 222006 | Seal Kit, Pump   |
| 31         | 1 | 232089 | Solenoid, 3 Pole, Heavy Duty                           |
| 32         | 1 | 230119 | Cable, Solenoid Ground                                 |
| 33         | 1 | 230155 | Battery Cable, 2ga Twin Lead, 186"                     |
| 34         | 1 | 110141 | Nut, M8-1.25 Wiz Flng, Gr 8.8, Zinc                    |
| 35         | 2 | 110396 | Bolt, 5/16-18 X 2.5 HhcsGr 5 Zinc                      |
| 36         | 2 | 110608 | Nut, 5/16-18   |
| 37         | 2 | 110674 | Washer, 5/16 Lock, Zinc                                |
| 38         | 4 | 110753 | Plug, 1/2 Button, Plastic, Fits 1/2" ID                |
| 39         | 1 | 211387 | Edge Molding, Rear Plate                               |
| 40         | 1 | 730008 | Terminal, Butt Connector, 16-14                        |
| 41         | 1 | 730013 | Terminal, Ring, 16-14, 5/16                            |
| 42         | 1 | 220691 | RESERVOIR RETURN                                       |
| 43         | 1 | 720041 | FILTER HEAD  |
| 44         | 1 | 720043 | FILTER (WIX 51551)                                     |

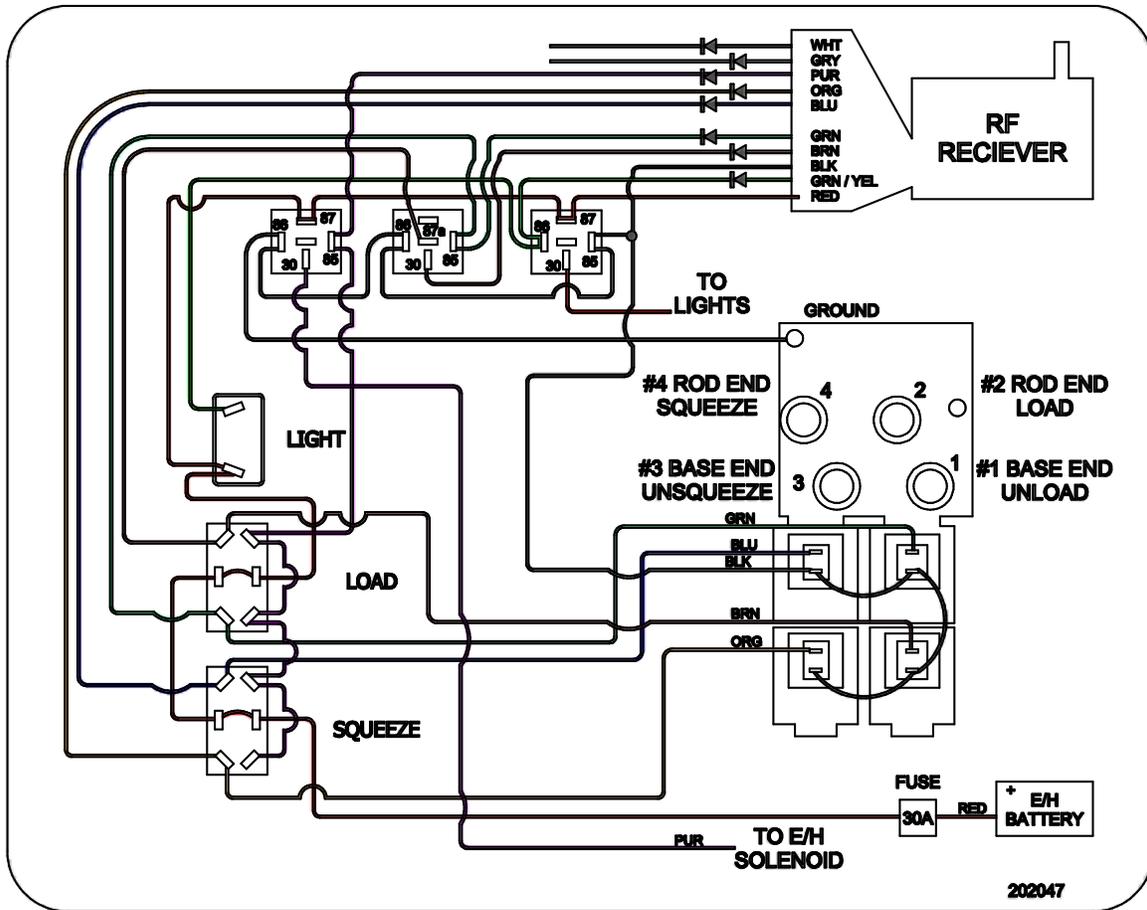


# E/H STANDARD KIT KAR-TECH OPTION



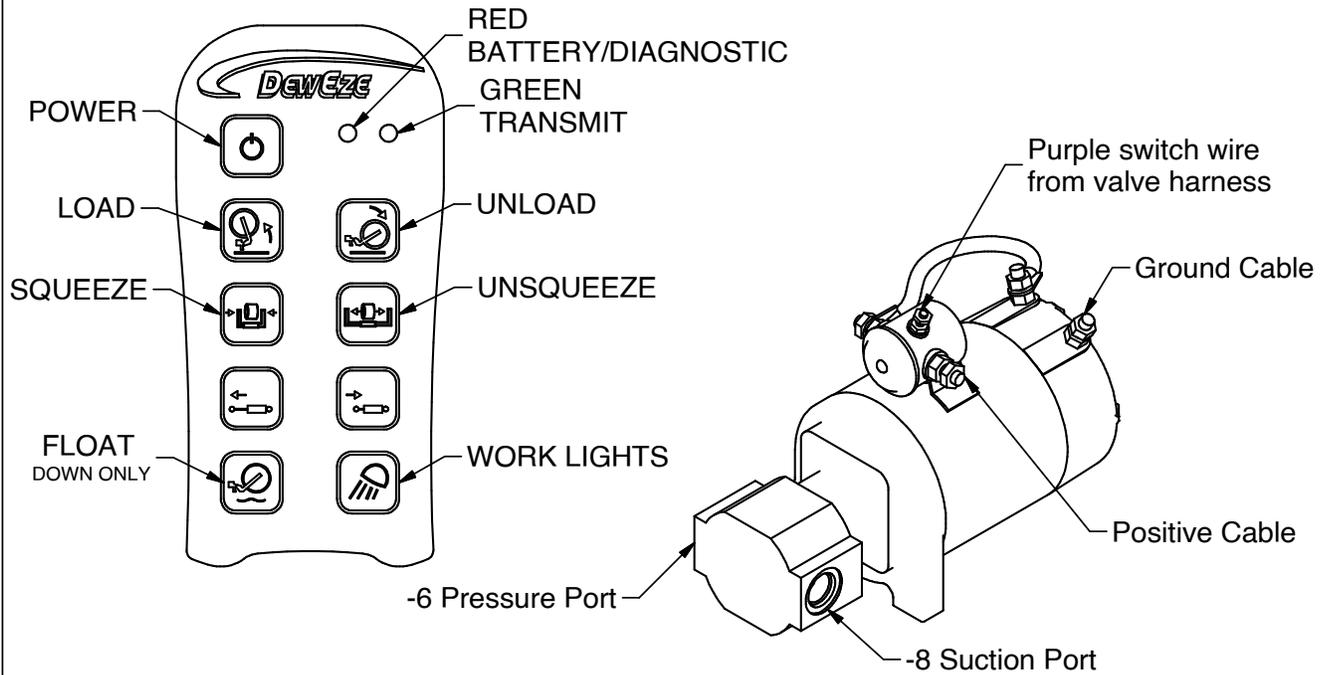
| Kar-Tech Wireless Parts List |     |        |                                     |
|------------------------------|-----|--------|-------------------------------------|
| Item                         | Qty | Part # | DESCRIPTION                         |
| 30                           | 3   | 110119 | Nut, 10-24, Lock                    |
| 31                           | 3   | 110264 | Bolt, 10-24 X .5 Stainless, Phlp Hd |
| 32                           | 2   | 132035 | Boot, 1/2 Toogle 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

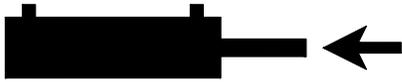
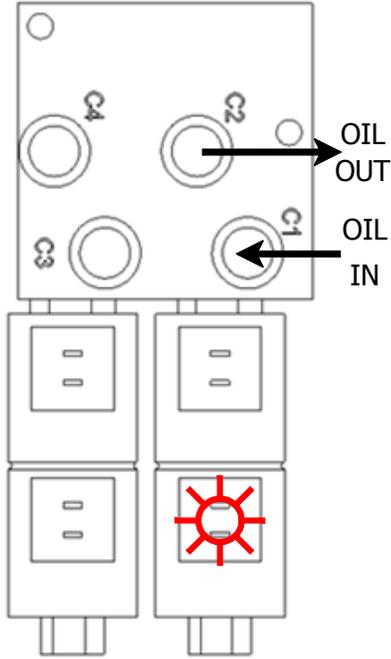
Harness Part# 232090



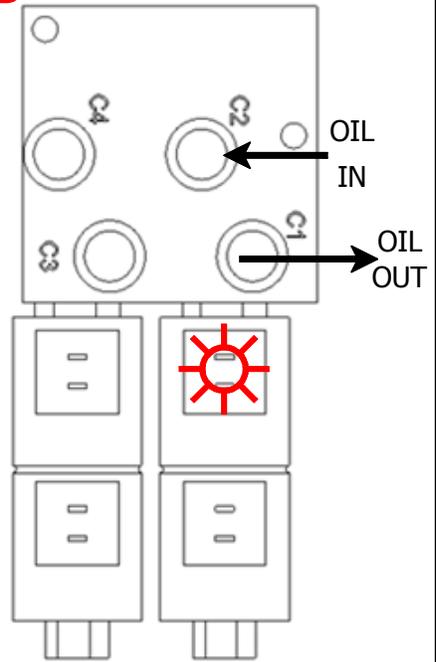
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 SOLENOID FIRES

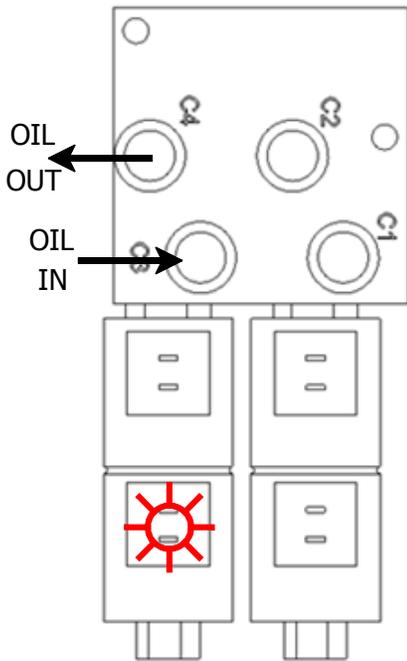
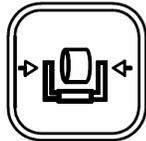
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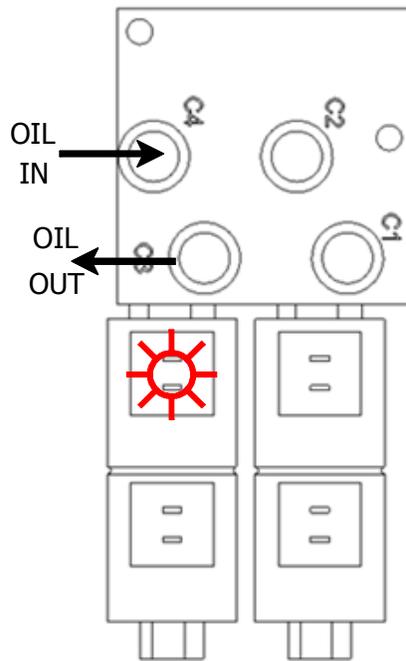
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**SQUEEZE**

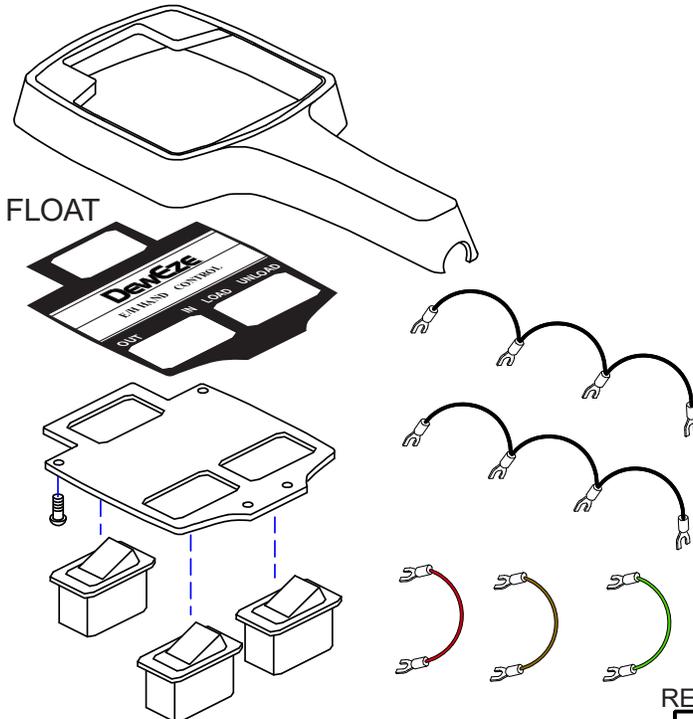


**UNSQUEEZE**



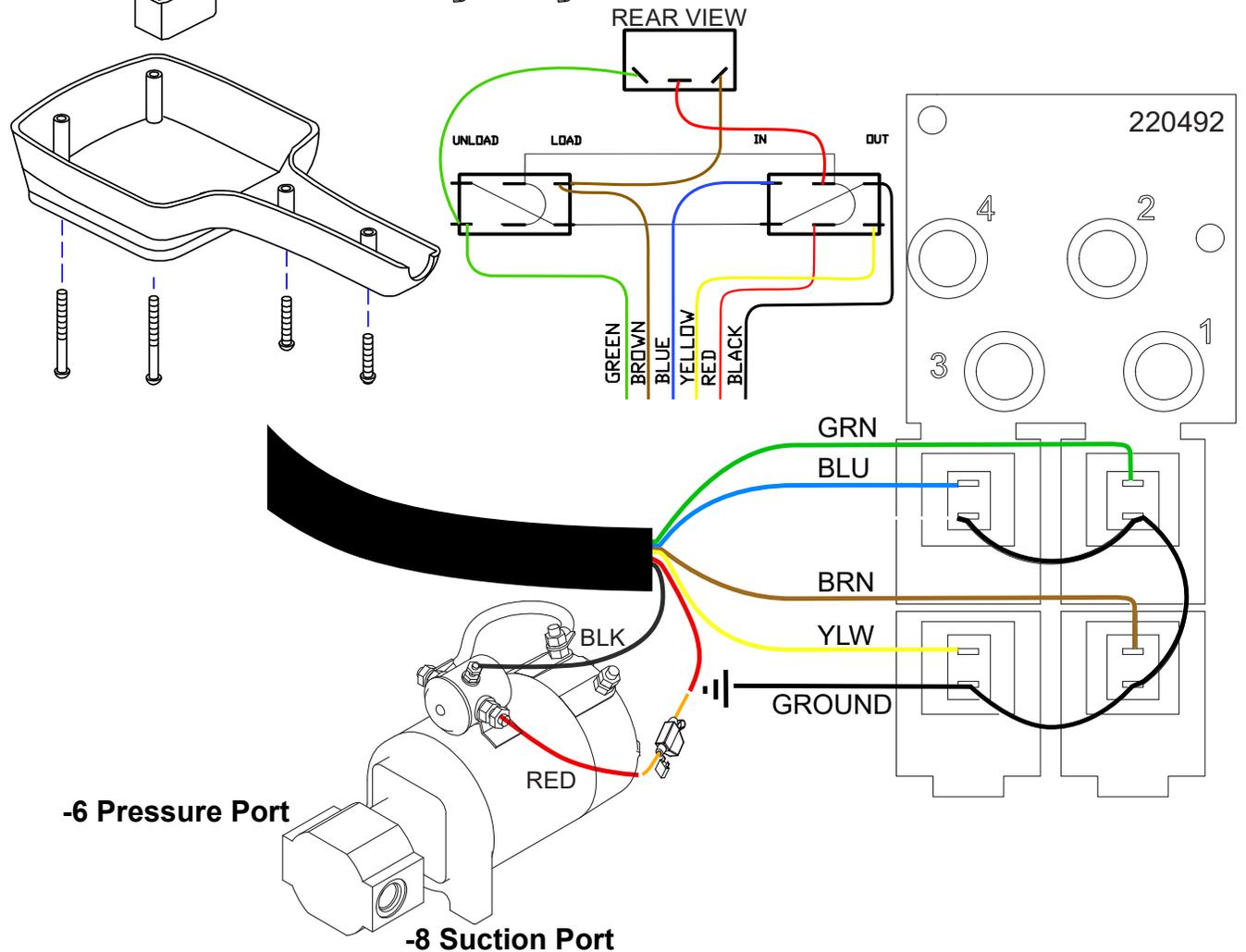
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# CORDED: EH VALVE (STANDARD EH)

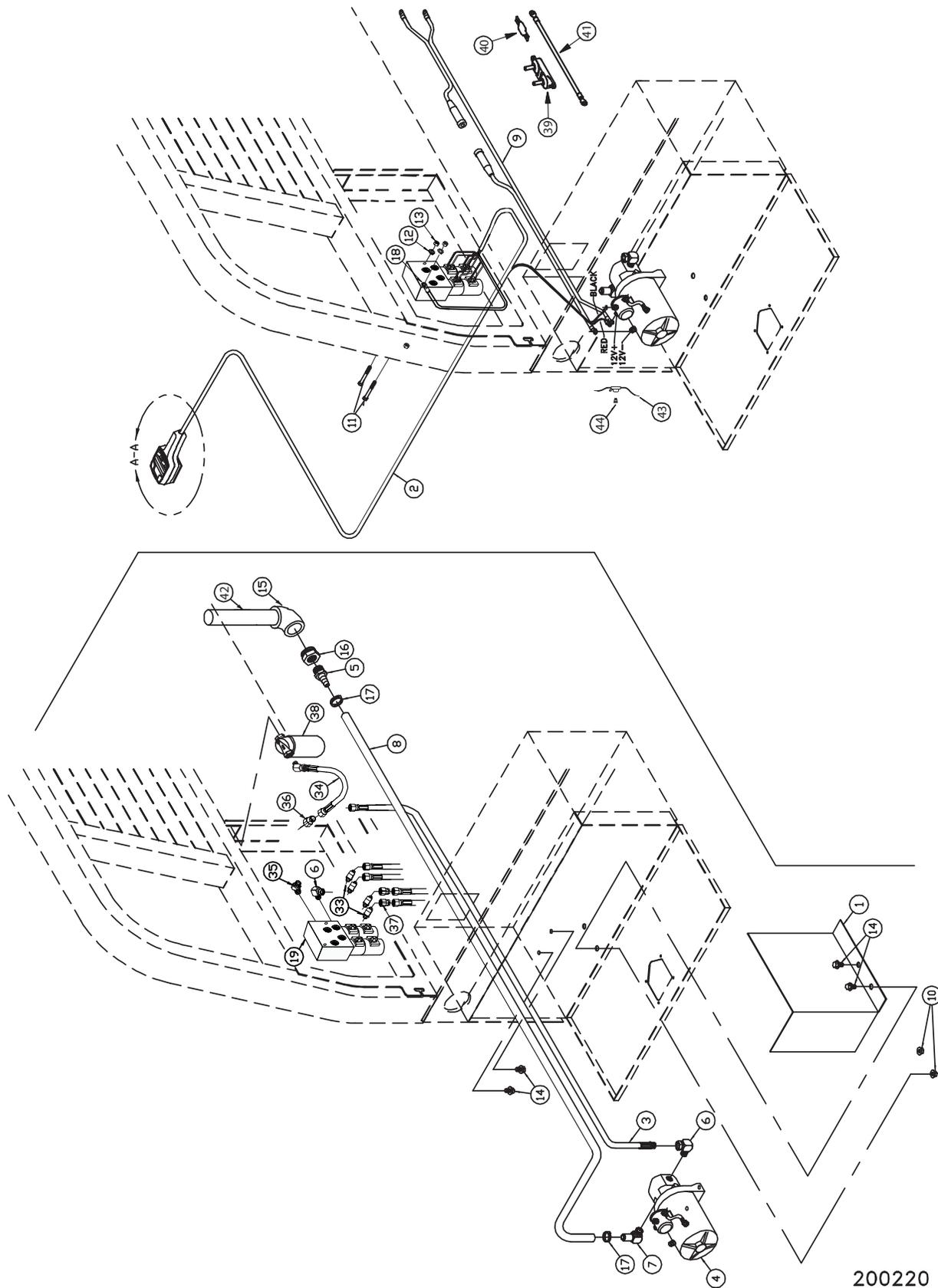


| Parts List |     |        |                              |
|------------|-----|--------|------------------------------|
| ITEM       | QTY | PART # | DESCRIPTION                  |
| 1          | 1   | 130002 | Rocker Switch Momentary      |
| 2          | 2   | 130029 | Switch DPDT                  |
| 3          | 1   | 150001 | Top Housing, Hand Control    |
| 4          | 1   | 150003 | Bottom Housing, Hand Control |
| 5          | 1   | 150002 | Switch Plate, Hand Control   |
| 6          | 1   | 150028 | 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   | 230148 | Cable                        |
| 11         | 1   | 230119 | Ground Harness               |
| 12         | 2   | 150030 | Jumper Wire 4-end            |
| 13         | 1   | 150029 | Jumper Wire Hot (16ga RED)   |
| 14         | 1   | 150031 | Jumper Wire (16ga GRN)       |
| 15         | 1   | 150032 | Jumper Wire (16ga BRN)       |

| KITS |     |        |                         |
|------|-----|--------|-------------------------|
| ITEM | QTY | PART # | DESCRIPTION             |
| 1    | 1   | 150027 | Kit, Hand Control Coded |



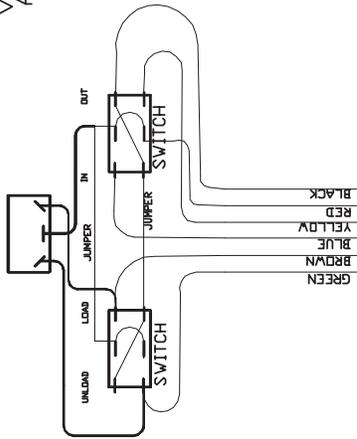
E/H HYDRAULIC & WIRING ASSEMBLY



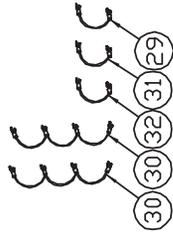
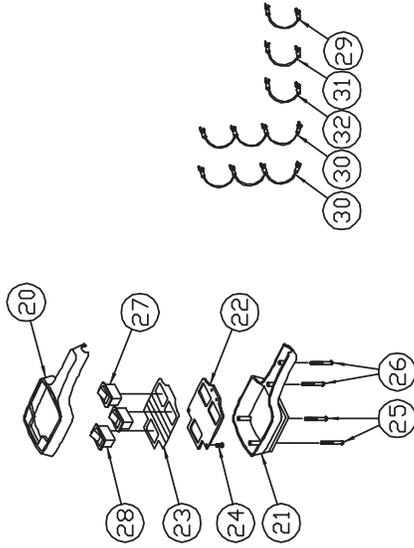
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E/H HYDRAULIC & WIRING ASSEMBLY

VIEW  
A-A



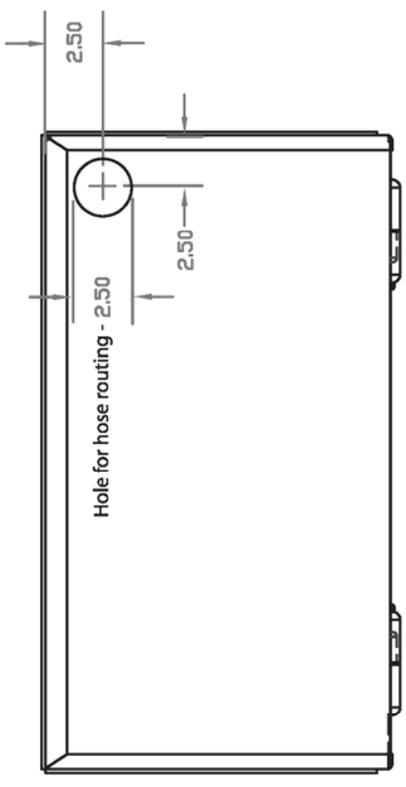
WIRING DIAGRAM  
SWITCHES SHOWN FROM BOTTOM



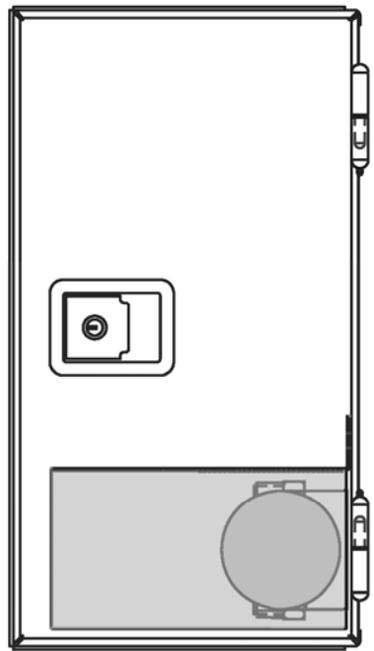
| ITEM | PART NO. | DESCRIPTION                             | QTY |
|------|----------|---|-----|
| 1    | 211353   | E/H SHIELD (1)                          | 20  |
| 2    | 150027   | HAND CONTROL & CABLE ASSY. (1)          | 21  |
| 3    | 230148   | CABLE /6-WIRE JUMPER WIRES INCLUDED (1) | 22  |
| 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  |
|      | 530018   | SOLENOID                                | 28  |
| 5    | 120227   | ADAPTER, 12BH-12MP (1)                  | 29  |
| 6    | 120149   | ADAPTER, 6MB-6FPX90 (2)                 | 30  |
| 7    | 120187   | ADAPTER, 12BH-8MB90 (1)                 | 31  |
| 8    | 220603   | HOSE, SUCTION .75*46.00 (1)             | 32  |
| 9    | 230144   | BATTERY CABLE - E/H (1)                 | 33  |
| 10   | 110645   | NUT, 3/8-16, WIZ FLANGE (2)             | 34  |
| 11   | 110396   | BOLT, 5/16-18 X 2.5 HHCS (2)            | 35  |
| 12   | 110674   | WASHER, 5/16 LOCK (2)                   | 36  |
| 13   | 110608   | NUT, 5/16-18 (2)                        | 37  |
| 14   | 110437   | BOLT, 3/8-16 X .75, WIZ FLNG (4)        | 38  |
| 15   | 720158   | FITTING, ELL 1.25 (1)                   | 39  |
| 16   | 720071   | FITTING, REDUCER 1-1/4 X3/4NPT          | 40  |
| 17   | 520099   | HOSE CLAMP #12 (2)                      | 41  |
| 18   | 230119   | CABLE/SOLENOID GROUND (1)               | 42  |
| 19   | 220492   | VALVE (1)                               | 43  |
|      | 150001   | TOP HOUSING (1)                         | 44  |
|      | 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 (WIZ 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)                   |     |

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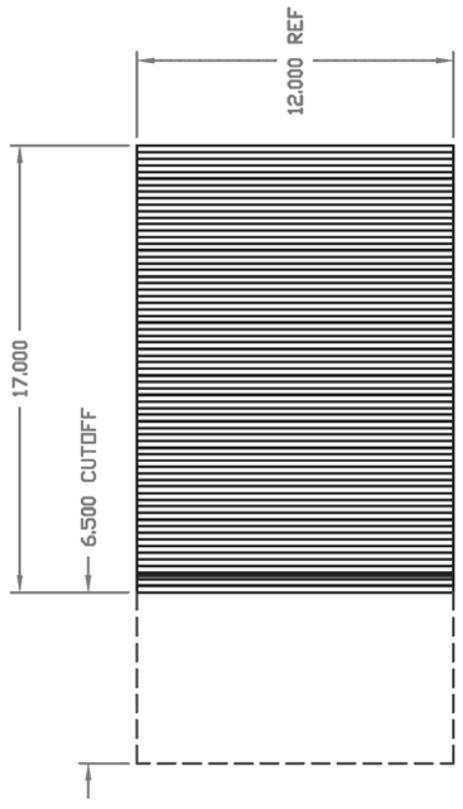
DEWEZE E/H KIT - 30" TOOLBOX MODIFICATION



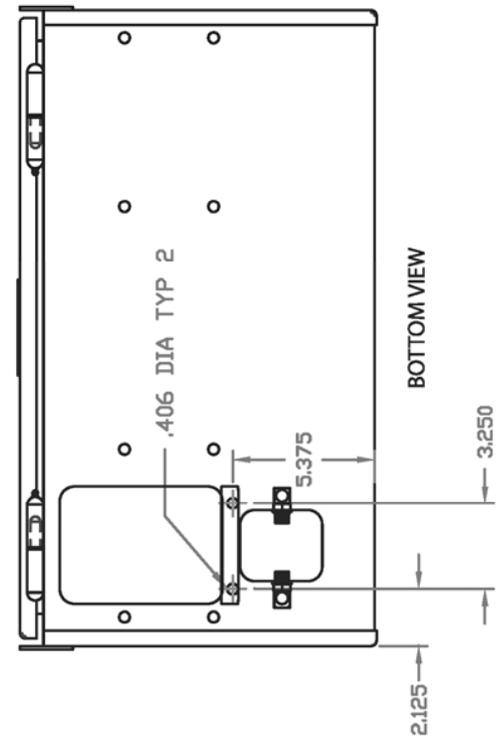
REAR VIEW



FRONT VIEW

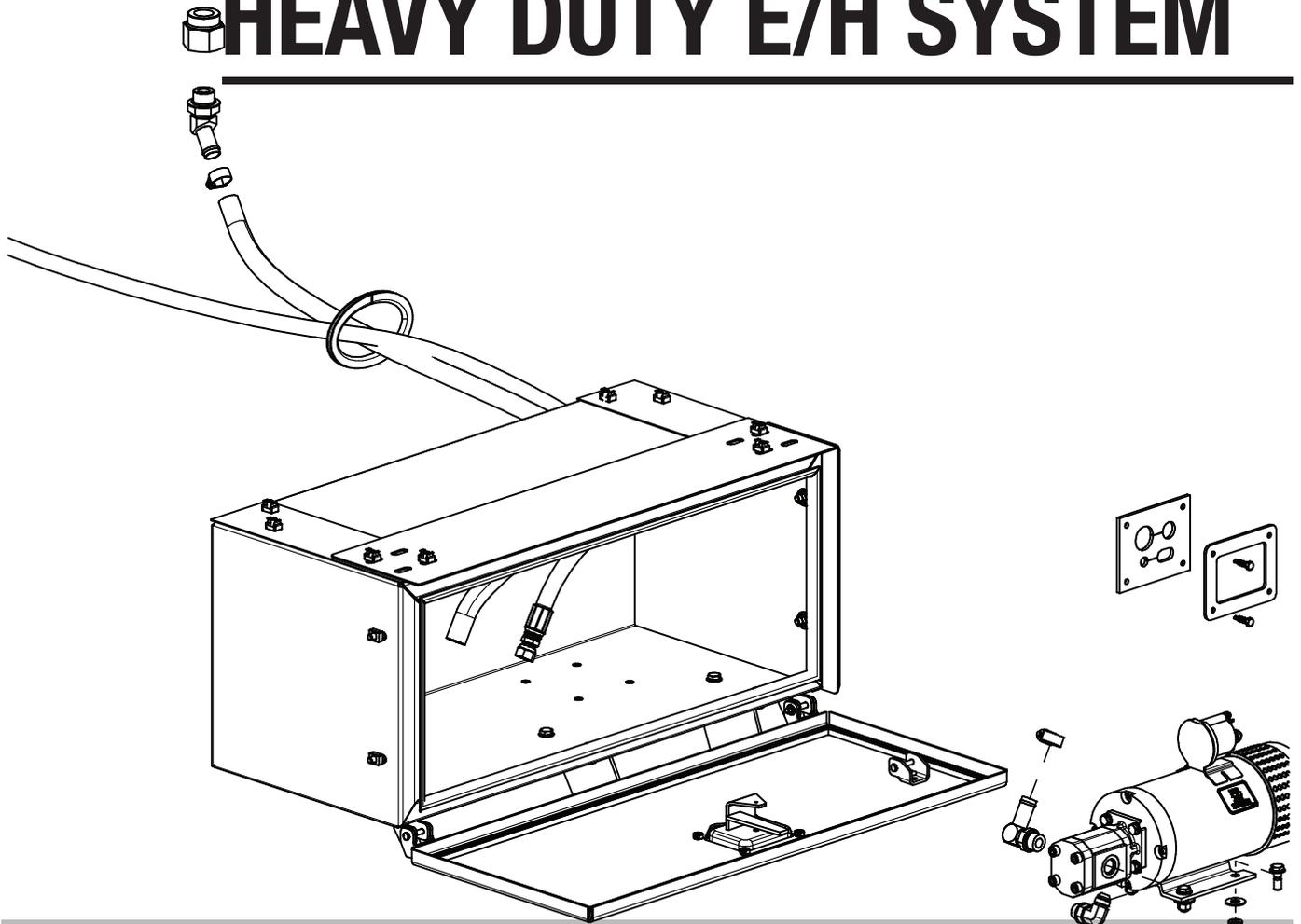


TOOL BOX MAT MODIFICATION



BOTTOM VIEW

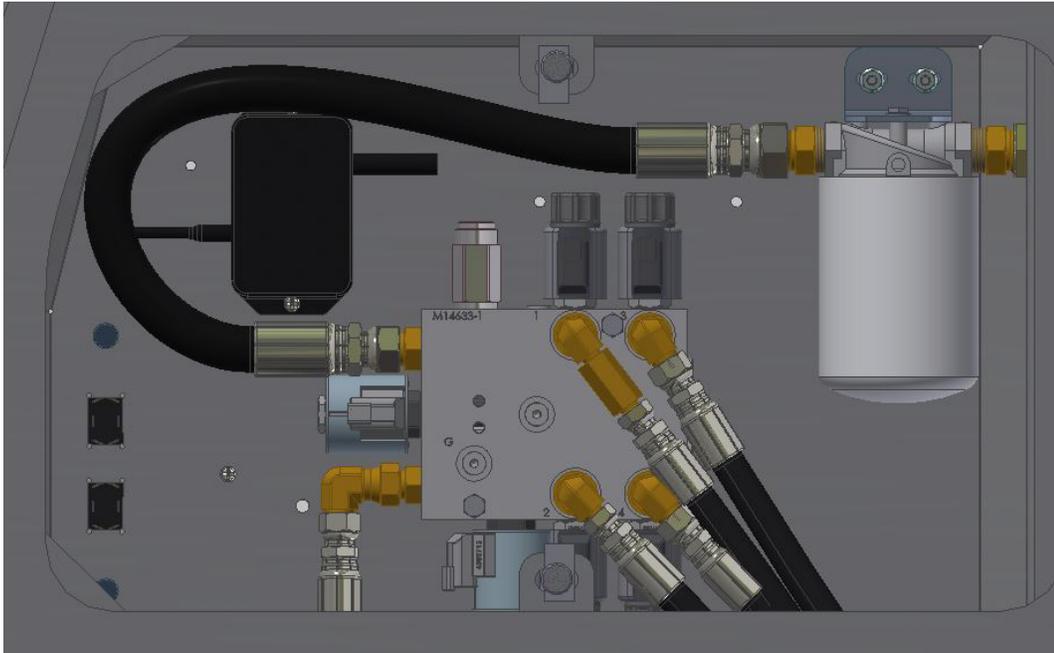
# HEAVY DUTY E/H SYSTEM



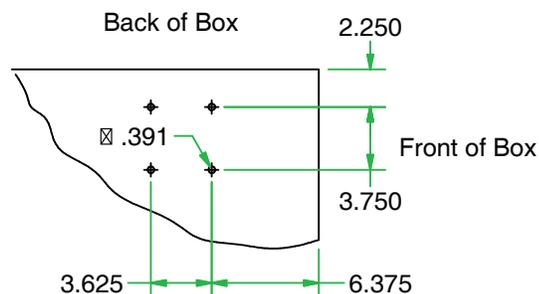
**DewEZE**<sup>®</sup>  
HYDRAULICS

## E / H KIT INSTALLATION INSTRUCTIONS

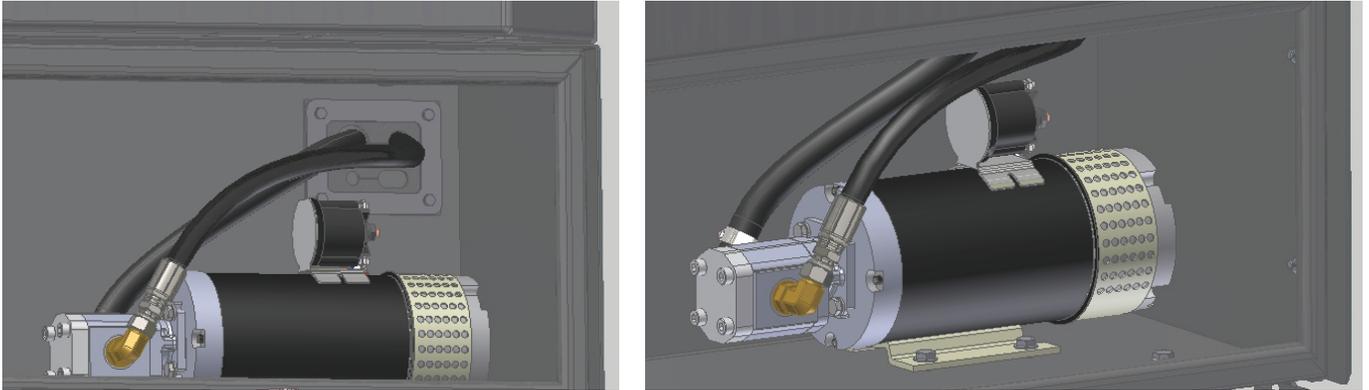
\* Read all instructions first.



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.



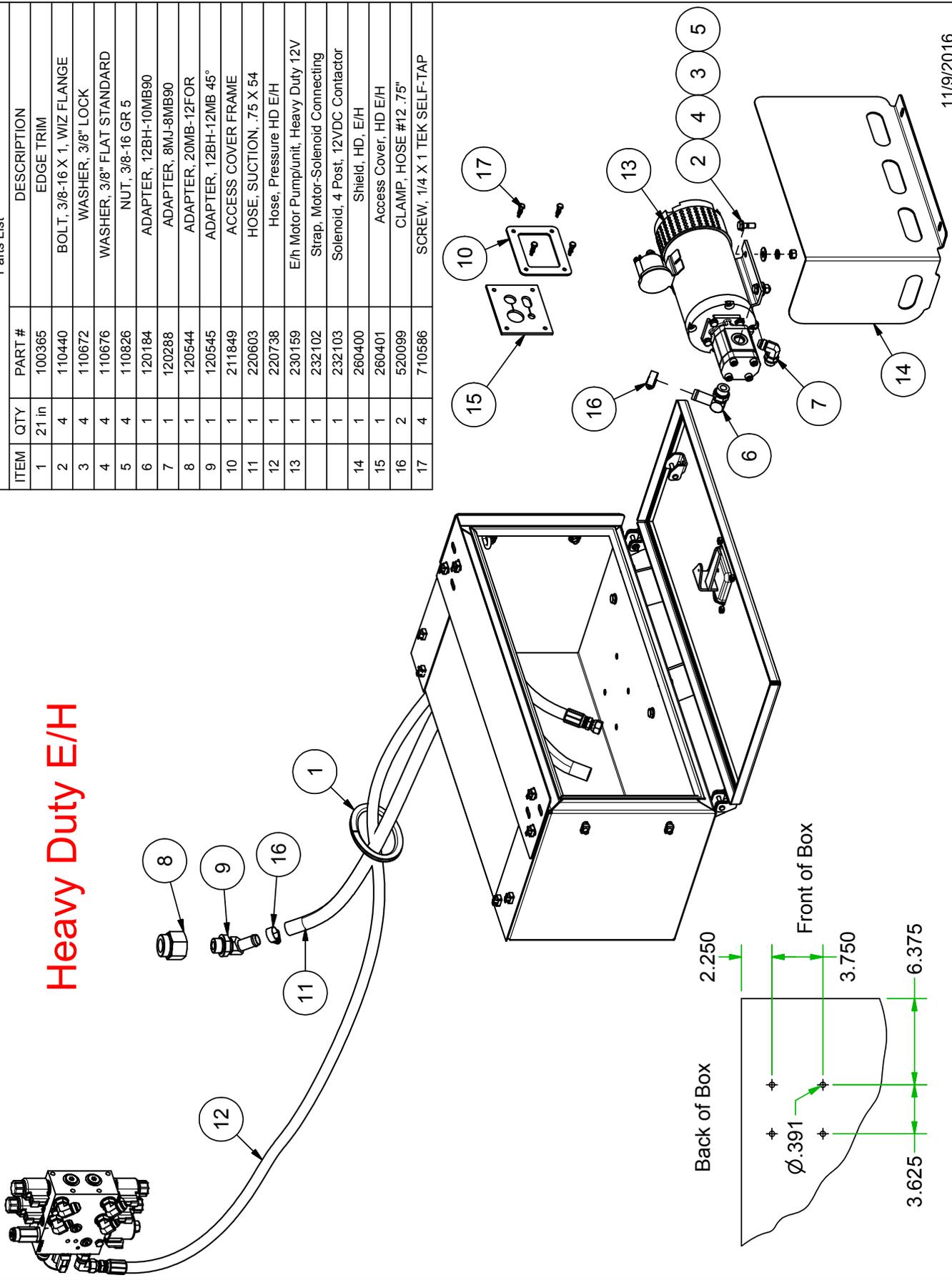
11. Attach suction hose and pressure hose to pump with adapters provided.
12. Attach suction hose to bottom of reservoir.
13. Run battery cables through hole in toolbox and attach to E/H motor as indicated.
14. Run battery cables along frame rail and attach black cable to negative terminal on battery.
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

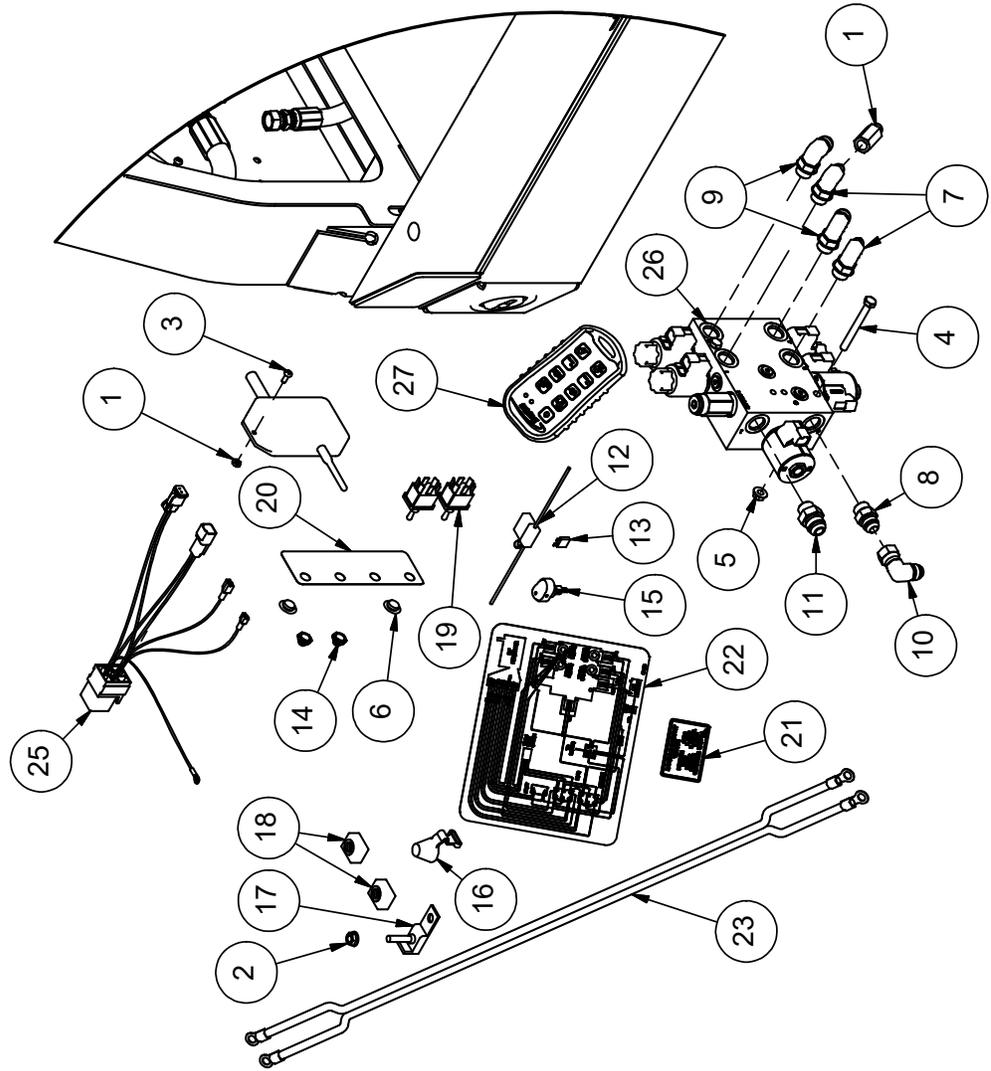
| ITEM | QTY   | PART # | DESCRIPTION                         |
|------|-------|--------|-------------------------------------|
| 1    | 21 in | 100365 | EDGE TRIM                           |
| 2    | 4     | 110440 | BOLT, 3/8-16 X 1, WIZ FLANGE        |
| 3    | 4     | 110672 | WASHER, 3/8" LOCK                   |
| 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         |



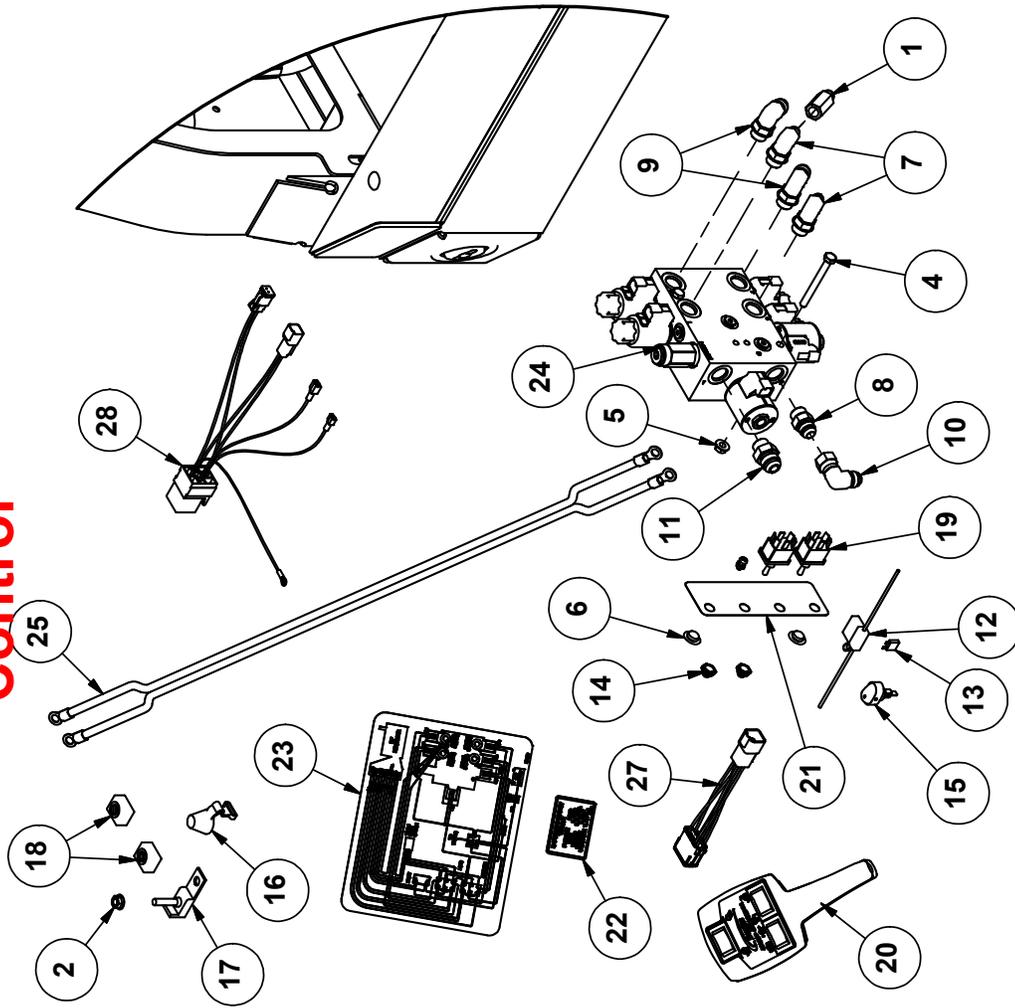
11/9/2016

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

# Heavy Duty E/H Kit W/ Remote



# Heavy Duty E/H Kit W/ Hand Control

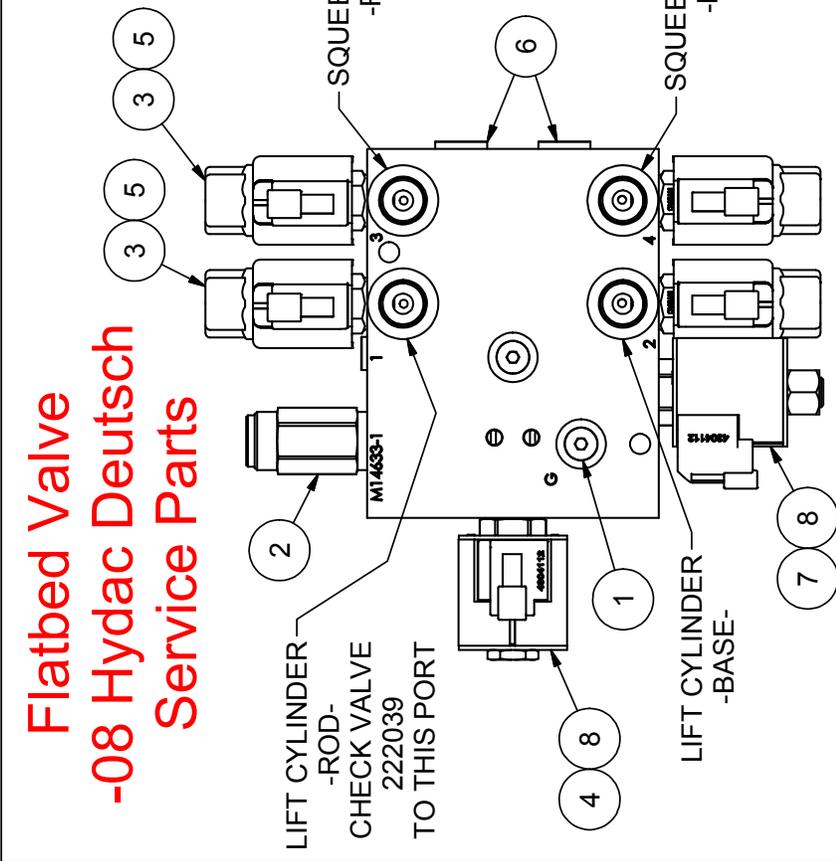


| Heavy Duty E/H, W/Hand Control Part# 205116 |     |   |
|---|-----|---|
| ITEM  | QTY | PART # DESCRIPTION                                  |
| 1   | 3   | 110119 NUT, 10-24 LOCK                              |
| 2   | 1   | 110141 NUT, M8 X 1.25 WIZFLANGE                     |
| 3   | 3   | 110264 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          |

11/9/2016

**Flatbed Valve, Small, Hydac Deutsch P/N 223044**

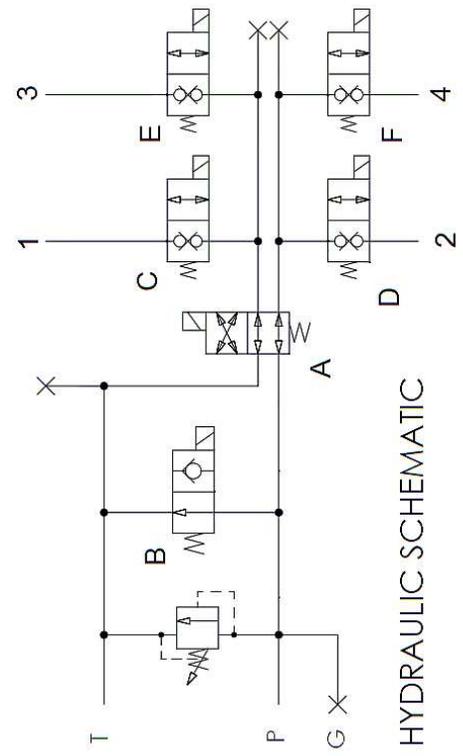
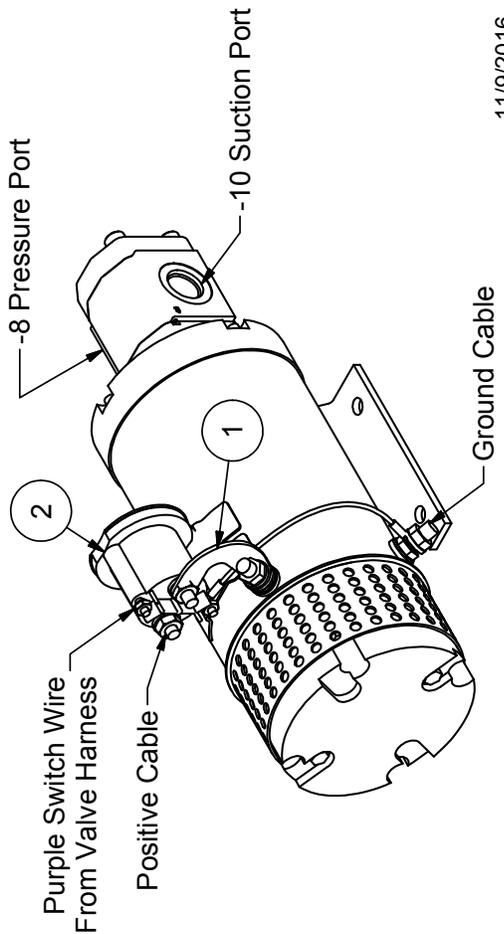
| ITEM | QTY | PART # | DESCRIPTION                              |
|------|-----|--------|--|
| 1    | 3   | 120062 | O-Ring Plug, #4 7/16-20                  |
| 2    | 1   | 222004 | Valve, Pressure Relief                   |
| 3    | 4   | 222010 | Cartridge, #8 HYDAC Double Poppet        |
| 4    | 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 Hydratorce, DT04-2P Suppressed |



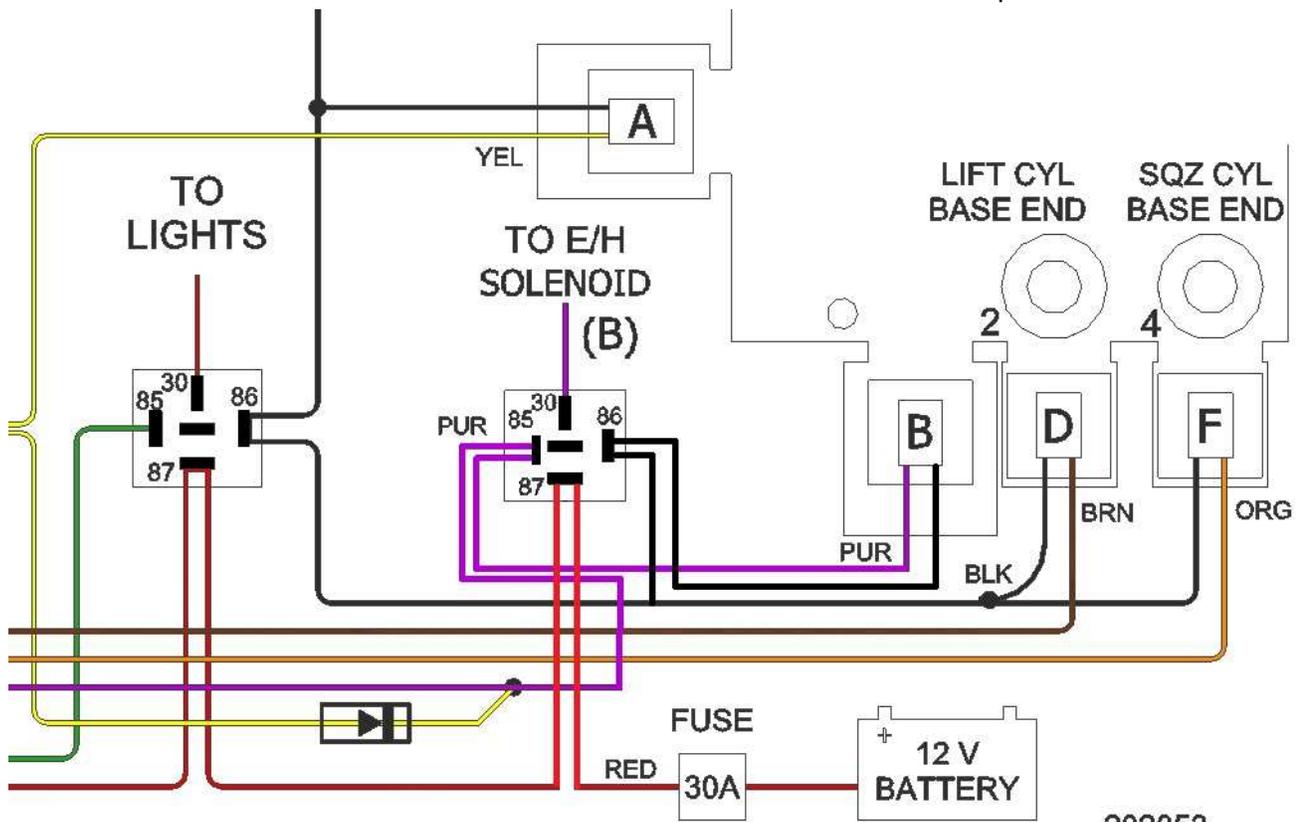
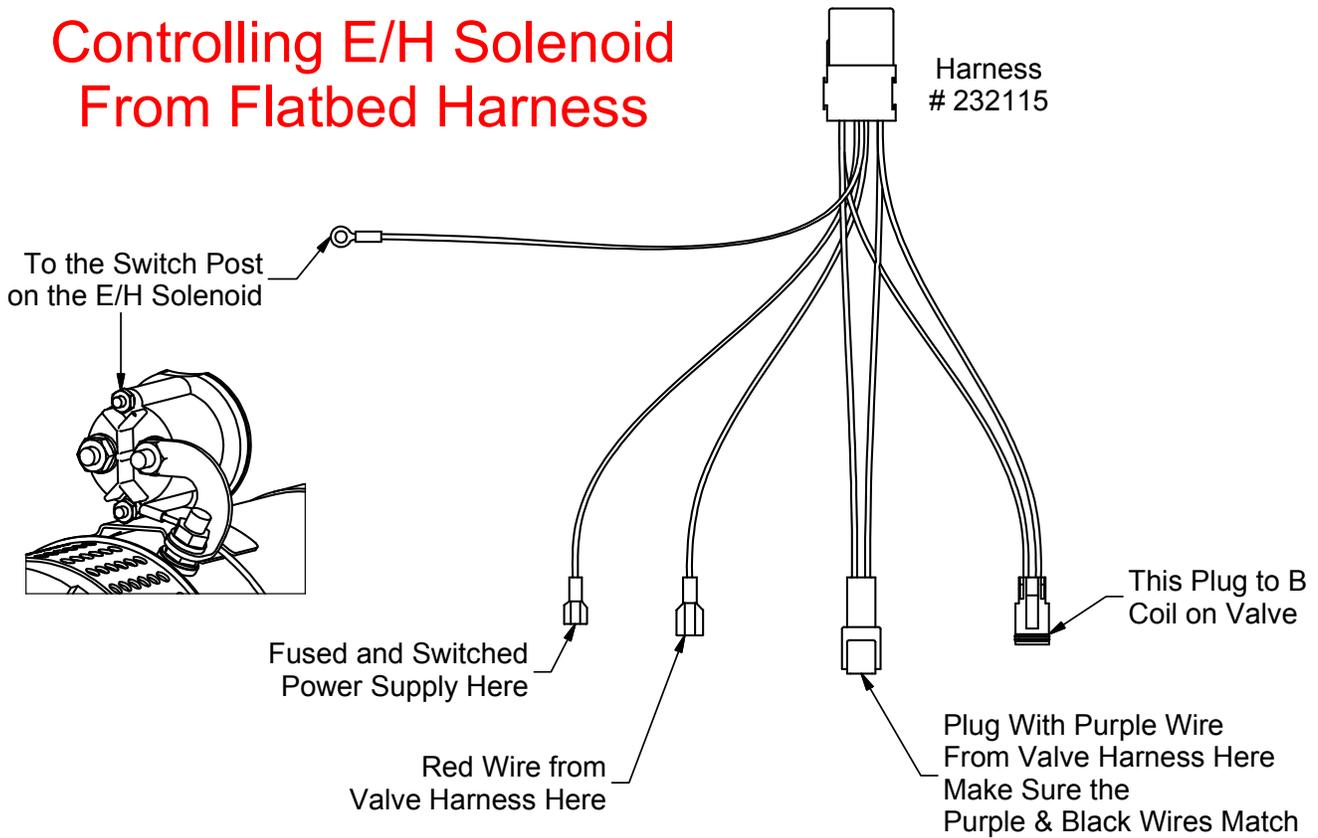
**Flatbed Valve  
-08 Hydac Deutsch  
Service Parts**

**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

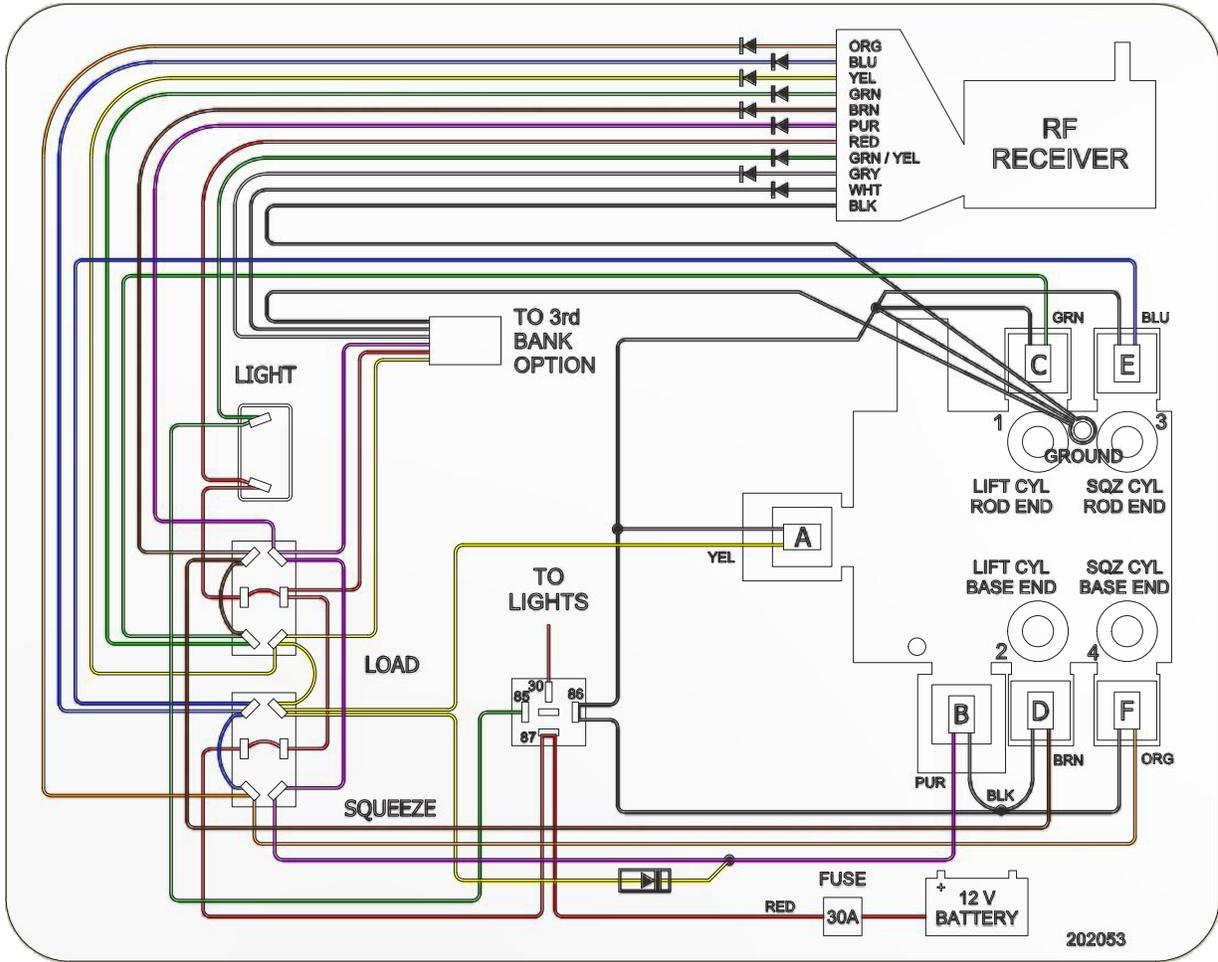


202053

11/9/2016

# 2 Bank Wiring, Kar-Tech Remote

Gen 3 Double Poppet, Deutsch

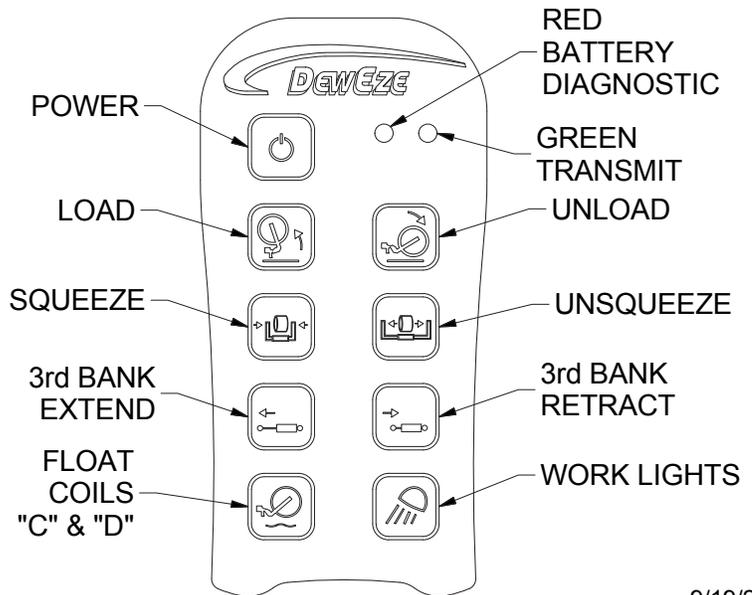


Decal Part# 202053

Harness Part# 232098

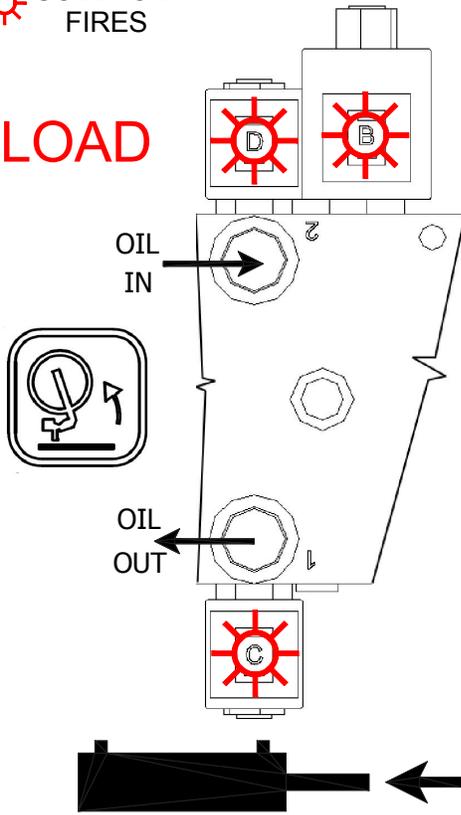
| DOUBLE POPPET VALVE |             |
|---------------------|-------------|
| FUNCTION            | COILS       |
| LOAD                | B, C & D    |
| UNLOAD              | B, C, D & A |
| SQUEEZE             | B, E & F    |
| UNSQUEEZE           | B, E, F & A |

202052

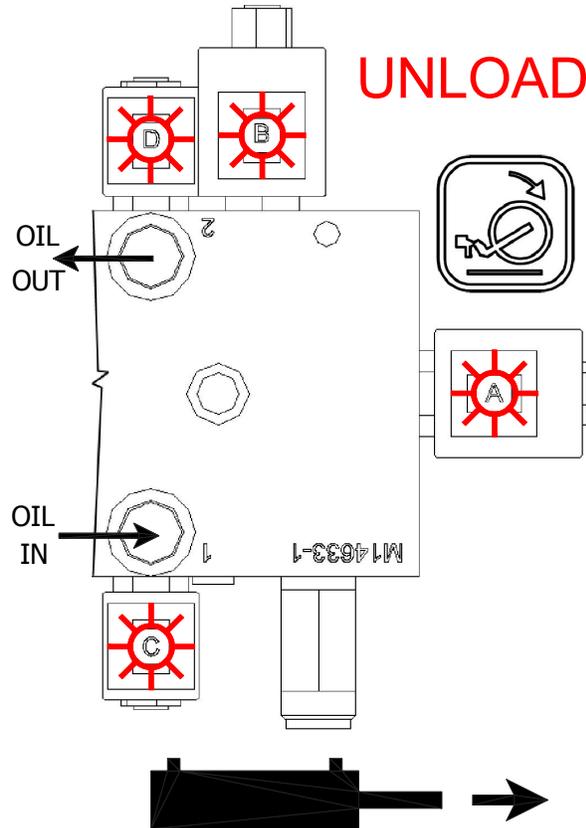


 SOLENOID FIRES

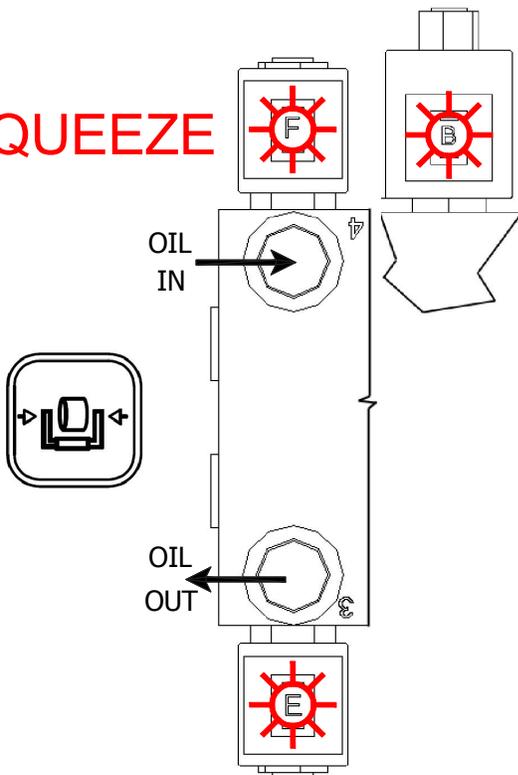
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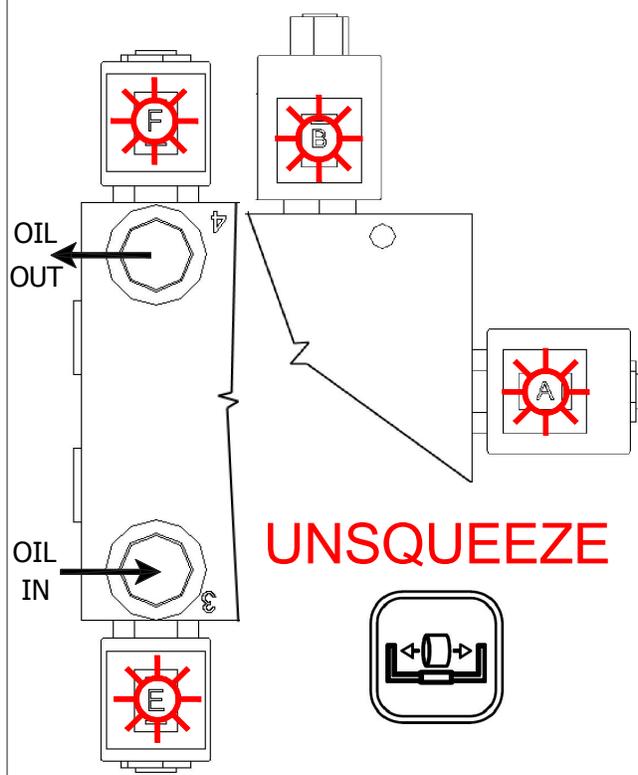
**UNLOAD**



**SQUEEZE**



**UNSQUEEZE**



## NOTES

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