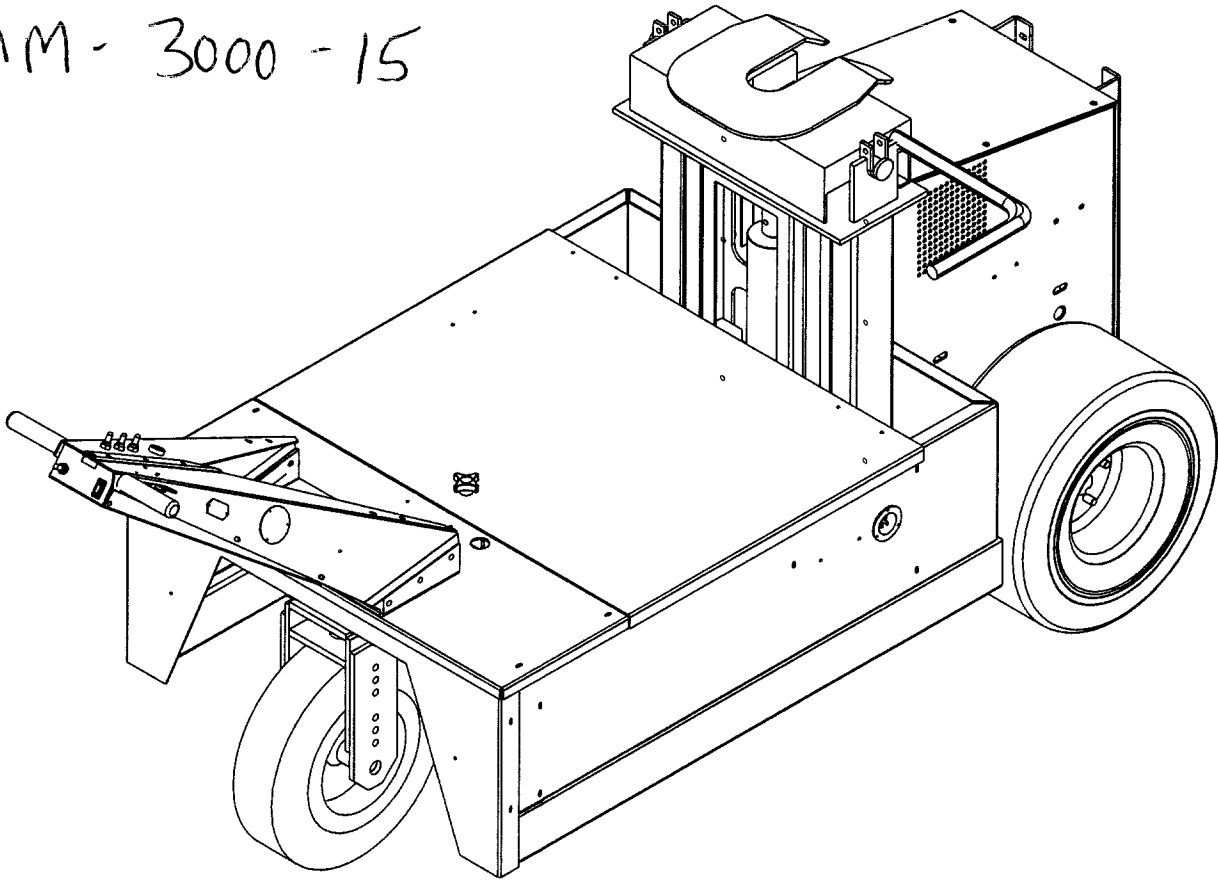


PMM-3000-15



**OPERATION, MAINTENANCE & PARTS MANUAL**

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## **PARTS BREAKDOWNS**

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## **BASIC OPERATION**

### WARNING

Your Powermover was designed to move heavy objects and loads on nearly level surfaces.

**Do not operate on slopes.**

### KEYED SWITCH

Your Powermover requires a key to turn the ignition switch on. Be sure to turn the key to the off position when your Powermover is not in use.

### VARIABLE SPEED CONTROL

The speed control is operated with the right index finger and has a one second delay built into it. When you pull the speed control lever you will hear a click and experience a short delay before the Powermover begins to move. Do not pull the speed control lever to its maximum position until you get the feel of how the Powermover accelerates. The procedure should be slow at first and then faster as you become more experienced. **Caution: Before pulling the speed control lever be sure the forward/reverse switch is in the proper position, for the desired direction you want to go.**

### FORWARD/REVERSE SWITCH

This is a simple rocker type switch and can be operated by using your right thumb. **Caution: Make sure you have selected the desired direction on the switch before activating the switch.**

### HYDRAULIC SWITCH

Your Powermover is equipped with a hydraulic lift. There is a switch on the handle to control the up/down motion of the mast. Pull back on the switch to raise the mast and push forward on the switch to lower the mast. Note: The switch is spring loaded and requires you to hold the switch on until the mast reaches the desired height.

### BRAKE CONTROL (OPTIONAL)

If your Powermover has the seven way connector mounted on the top front of the Powermover, then it has a push button switch on the handle to activate the receptacle. This button is used to activate the trailer brakes if they are plugged into the standard seven way connector allowing the trailer brakes to stop the load.

### MAGNETIC BRAKING 2 HP CONTINUOUS DUTY MOTOR

The continuous duty motor, with its standard hookup, will stop the Powermover when the speed control is released after a three second delay.

### CHARGING SYSTEM

Your Powermover is equipped with a built-in-charging system. It requires a standard three prong extension cord to use the battery charger. The male end, plugs in to a standard 120 volt outlet, and the female end, plugs into the receptacle located on the right of your Powermover. When your Powermover is not in use you should leave the charger plugged in. When you first plug your charger in you will see a red light come on. This is normal. When the batteries are near a full charge you will see a red and a green light. When the red light goes out and only the green light is on you have reached a full charge. It will not damage the batteries to leave the charger plugged in. You also have a battery level indicator

that will show the amount of charge left in your battery. It is located on the handle of your Power mover.

#### SAFETY SWITCH

The reversing safety switch is located on top of the handle and is designed to activate if you are backing up and it hits your belly. When the switch hits your belly it will depress the switch, which immediately reverses the motor. It is not possible to go backwards when the switch has been activated until you reset the switch. You reset the switch by turning it clockwise. You will hear a click and see the switch pop out to its normal set position. You will now be able to go in reverse.

#### STEERING

Your Powermover is equipped with a steering handle that directly turns the rear wheel of the Powermover when pushed to the right or left. **CAUTION: WHEN FIRST LEARNING TO OPERATE THE POWERMOVER SLOW AND EASY IS THE BEST POLICY FOR BOTH THE SPEED CONTROL AND THE STEERING CONTROL. USE SLOW SPEED WHEN MAKING TURNS.**

#### HYDRAULIC LIFT

The hydraulic lift is designed to provide additional traction when moving heavy objects by transferring some of the weight from the object being moved to the front drive wheels of the Powermover. This transfer of weight is essential to move many of the heavier objects

#### HOUR METER

The hour meter is standard equipment on every Powermover as of June 1, 2001. We suggest you keep a log book so you know the proper time to service your Powermover. The hour meter is located in the handle.

## **OPTIONS**

#### WEIGHT KIT

Sometimes it is necessary to add weight to move certain loads, especially on non-hydraulic lift models. A variety of weights are available to assist where needed.

#### NON MARKING TIRES

Gray non marking tires are available for the Powermover.

#### ATTACHMENTS

Many jobs require some type of special attachment. We custom make whatever is necessary to do the job. The following standard brackets are available. J-type hooks, pintle hooks, hitch balls, hitch pins, o-rings and saddles. The attachments are adjustable to fit almost any need.

#### **SAFETY RECOMMENDATION:**

**IT IS RECOMMENDED THAT WHEN LIFTING A LOAD WITH THE HYDRAULIC LIFT THAT YOU ONLY LIFT IT HIGH ENOUGH TO CLEAR THE GROUND SURFACE AND THEN MOVE THE LOAD. SHOULD YOU FEEL UNCOMFORTABLE WHILE MOVING THE LOAD YOU CAN QUICKLY LOWER IT TO THE GROUND.**

# GENERAL MAINTENANCE

**2 HP MOTOR CONTINUOUS DUTY:** This powerful motor is designed for continuous use. It is a permanent magnet motor and acts as a brake when the speed control is released. Its bearings are factory sealed and require no maintenance; the brushes should be checked every 500 hours of operation.

## GREASE FITTINGS

Shafts (grease every 1000 hours of operation)

- 1) 1 at the differential shaft
- 2) 1 at the rear steering wheel

## BATTERIES

Check the electrolyte level in each of the battery cells to be sure they are ½" above the top of the lead plates. **Caution: Never let the electrolyte drop below the top of the lead plates and never smoke or have an open flame near the batteries. A spark or open flame could cause an explosion causing injury.**

## HYDRAULIC FLUID LEVELS

Check the hydraulic reservoir at least every 150 hours. If it is low bring the level back up to the full mark. Also check the hose and fittings at the same time for any fluid leaks.

## CHAINS

Lubricate the chains once every year with motorcycle chain type grease.

## TIRES

Your Powermover may have foam filled tires. This allows for the tires to carry more weight, adds more weight and prevents flat tires from ever occurring.

# REPLACING PARTS

## RECOMMENDATION

It is recommended that only mechanics service or replace parts on your Powermover.

Ultra-Fab stocks any and all parts necessary to keep your Powermover in good operating condition

Allowing for the best possible service. Many of the parts are self explanatory and very easy to replace. The parts breakdown will show you where these parts go but does not explain how to change because it is obvious.

NOTE: SHOULD YOU HAVE ANY QUESTIONS CALL ULTRA-FAB AT 800-860-7571

## MOTOR 2HP CONTINUOUS DUTY

STEP 1) Open the door to battery compartment and disconnect the negative leads on the battery terminal (2 places) This eliminates all power to the motor and the handle.

STEP 2) Remove the top cover by removing the four screws. Disconnect the two wires from the motor terminals.

STEP 3) Loosen and remove the four bolts on the motor mount plate and lift the motor up and out of its location. (The belt will come off the drive sheave as you remove the motor and mount plate).

STEP 4) To reinstall reverse steps 1-3. The mounting plate has adjustments from side to side and well as up and down. Install the motor in a way that the belt tracks true from pulley to pulley, this is achieved with the side to side adjustments, and then adjust the belt tension with the up and down adjustments. (Hint: the top of the motor mount plate should be parallel with the top of the chase frame.)

## COG TYPE BELT (ON ALL MODELS BUILT AFTER (2/1/05) (Shaft # 1)

A cog type belt is used to drive the power from the motor to a large cog type sheave on the main shaft. You can replace the belt with out disassembling the unit. To replace the cog belt follow these steps.

STEP 1) Follow the first 2 steps above on replacing the motor.

Step 2 ) Release belt tension on the motor. To achieve this loosen the 4 bolts holding the motor mount plate. Allow the motor to slide down the elongated slots, this will loosen the belt.

Step 3) Inside the housing locate the bearing block next to the cog pulley, you will see two (2) set screws, loosen or back off the set screws, DO NOT remove them.

Step 4) On the outside of the housing (belt side) , remove the access plate (4 5/16 bolts) the bearing block will come off with it.

Step 5) With the access plate removed you can remove and install a belt with out dismantling the gears and pulleys.

Step 6) Replace the access plate and tighten up the set screws on the inside bearing block.

Step 7) Adjust the tension on the belt by lifting the motor (pulling it up the elongated slots) this will tighten the belt, secure it to the frame by tightening the 4 bolts.

Step 8) Replace covers

Step 9) Reconnect batteries

## FRONT DRIVE TIRES

To change a tire is just like a car. Remove the lug nuts and the tire and wheel will pull straight out and off.

## REAR STEERING TIRE

This tire is mounted between a yolk with a single large bolt held in place with a nut. You must hold one end of the bolt while you loosen the nut.

## CHAINS

Adjustment of the chains is accomplished by loosening the bolts securing the bearing block to the frame, and then adjusting the tightening screw. This will push the bearing block and tighten the chain and keep it from moving when you are pulling a heavy load. Once the chains are tensioned lock down the bearing blocks, by securing the bolts. To remove or replace the chain, you must first identify the master link by rotating the chain until you see the master link. Then use needle nose pliers to remove the keeper and pull the chain apart. You can now reverse the steps and put the master link back together.

## DIFFERENTIAL (Shaft # 2)

The differential is installed in your Powermover to allow one wheel to stand still or go backwards while the other wheel goes forward during a turn. The differential is located in the front section of the drive assembly. To access it you will need to remove the Cog belt pulley shaft, and the hydraulic pump. This will give you access to the differential shaft.

Step 1) remove the hydraulic pump

Step 2) Remove the cog belt pulley shaft

Step 3) Remove the chains that go around the sprockets on the shaft. See "chains" above.

Step 4) Remove the 4 bolts that hold both the right and left flange bearings (2 each) and lift the differential out of the main body.

Step 5) Transfer the bearings, sprockets, spacers and lock collars to the new differential shaft making sure they are back in the same order as on the old shaft.

Step 6) Reverse steps 1-4 and make sure all bolts are tight.

## HYDRAULIC PUMP

STEP 1) Remove cover top plate.

STEP 2) Disconnect hydraulic hoses (prepare for leakage of hydraulic fluid)

STEP 3) Disconnect 12 volt wires.

STEP 4) Remove the 2 bolts holding the pump to the main chassis. Easily accessed on the right side of the chassis.

STEP 5) Install new pump and reverse steps 1-4. Then check the hydraulic fluid level in the reservoir to make sure it is at the proper level. There is a line showing where the level should be.

STEP 6) It will be necessary to operate the cylinder all the way up and all the way down to purge the air from the lines. NOTE: You may need to do this procedure more than once to clear the air from the lines.

## HYDRAULIC CYLINDER

STEP 1) Remove the pin that holds the shaft of the hydraulic cylinder to the inner mast.

STEP 2) Remove the inner mast by pulling it straight up and out of the outer mast.

STEP 3) Disconnect the upper and lower hoses.

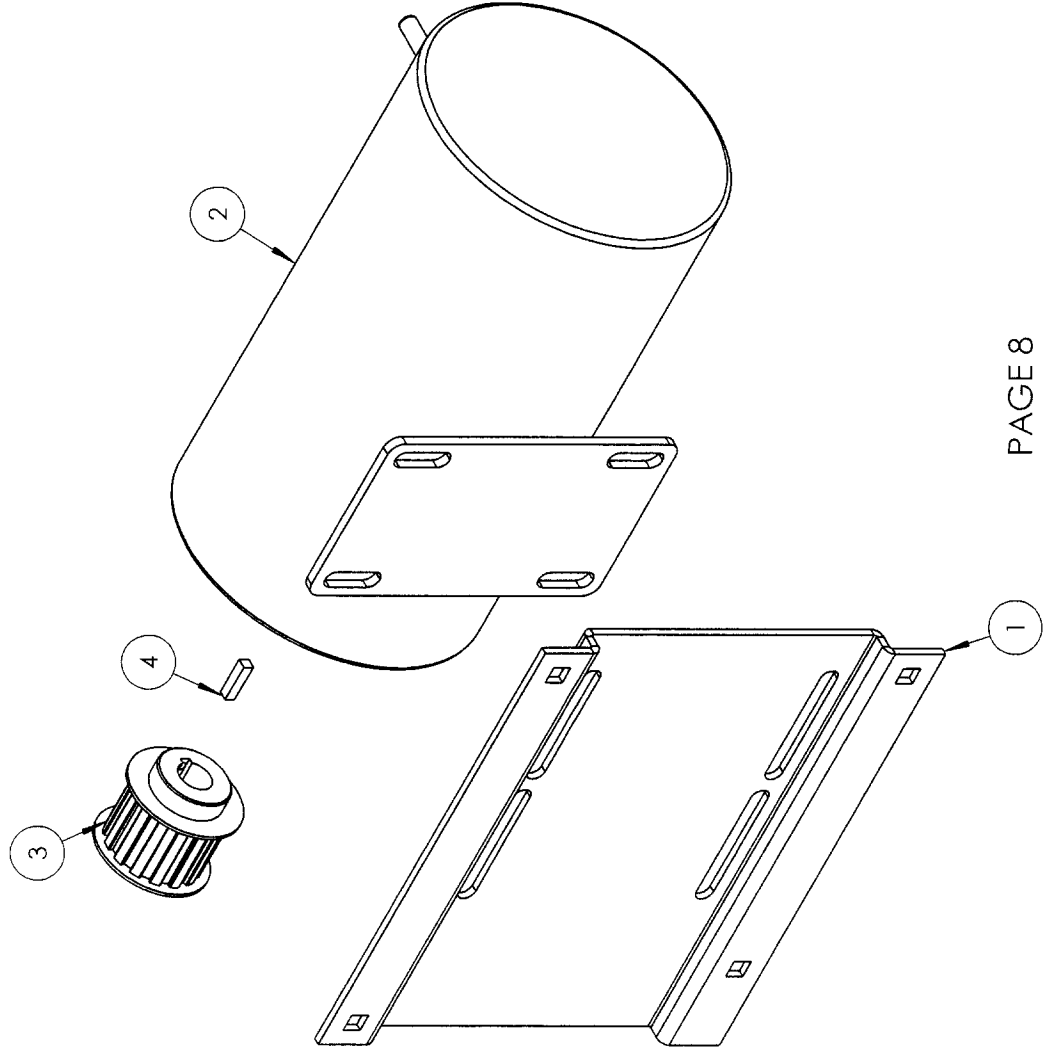
STEP 4) Remove cylinder and replace with new one.

STEP 5) Reverse steps 1-4 and add the proper amount of hydraulic fluid to bring the level up to the full line.

STEP 6) It will be necessary to purge the lines of air. Do this by operating the cylinder to a full up and then down position. You may have to do this procedure more than once to get all the air from the lines.

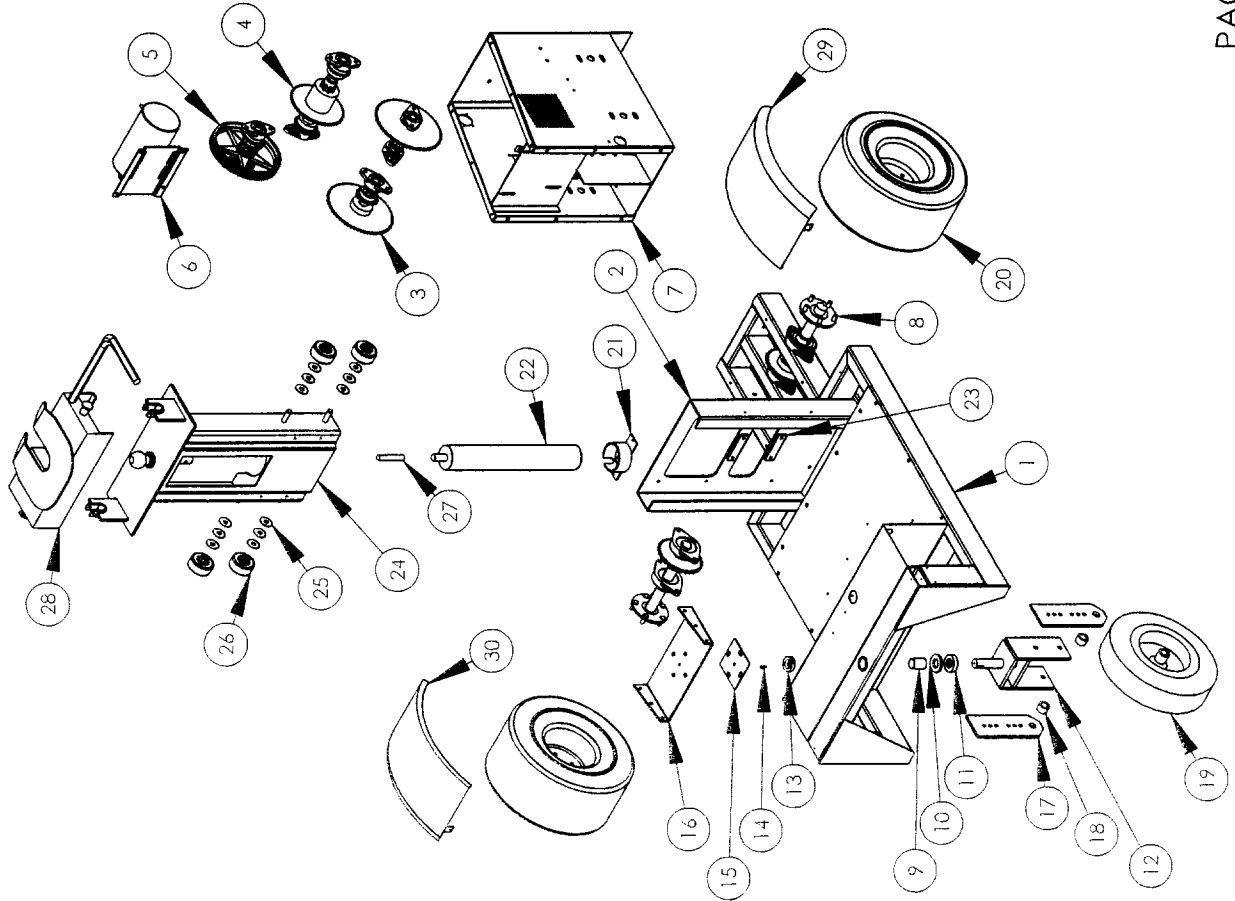
# MOTOR ASSEMBLY

| NO. | QTY. | PART #    | DESCRIPTION         |
|-----|------|-----------|---------------------|
| 1   | 1    | 41-013659 | PLATE-MOTOR MOUNT   |
| 2   | 1    | 41-000688 | MOTOR-2 HP. (CONT.) |
| 3   | 1    | 41-050113 | SHEAVE-15T BELT     |
| 4   | 1    | 41-000544 | KEY-3/16 X 3/4"     |





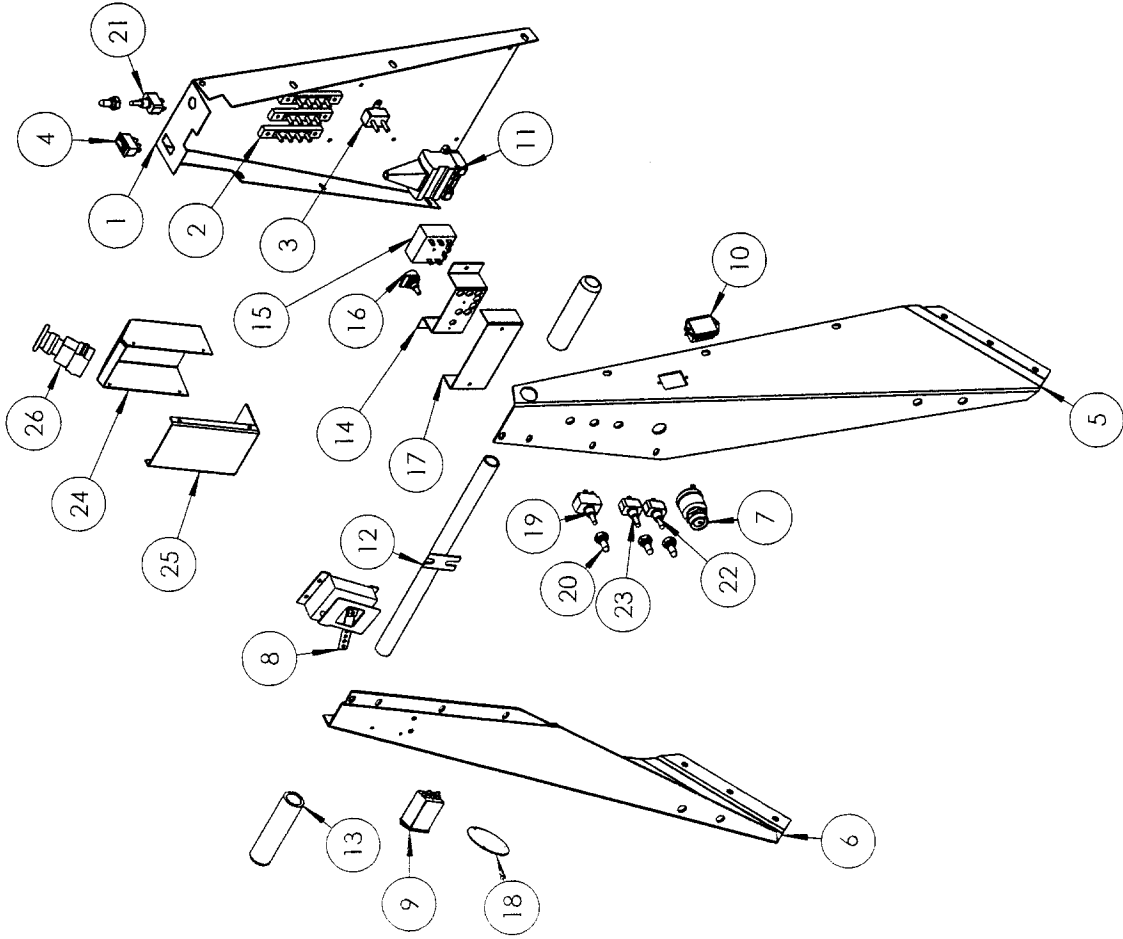
chassis



| NO. | QTY. | PART #         | DESCRIPTION                    |
|-----|------|----------------|--------------------------------|
| 1   | 1    | 41-013566      | FRAME-MAIN                     |
| 2   | 1    | 41-013573      | MAST-OUTER                     |
| 3   | 2    | SHAFT 3        | SHAFT 3 (SEE BREAKDOWN)        |
| 4   | 1    | SHAFT 2        | SHAFT 2 (SEE BREAKDOWN)        |
| 5   | 1    | SHAFT 1        | SHAFT 1 (SEE BREAKDOWN)        |
| 6   | 1    | MOTOR ASSEMBLY | MOTOR ASSEMBLY (SEE BREAKDOWN) |
| 7   | 1    | 41-013554      | HOUSING-FRONT WELDMENT         |
| 8   | 2    | SHAFT 4        | SHAFT 4 (SEE BREAKDOWN)        |
| 9   | 1    | 41-030090      | BUSHING-1 1/4" ID.             |
| 10  | 1    | 41-020096      | WASHER-2.5" X 1.25"            |
| 11  | 1    | 41-090120      | BEARING                        |
| 12  | 1    | 41-013572      | YOKE-STEERING                  |
| 13  | 1    | 41-210010      | COLLAR-1 1/4" SPLIT            |
| 14  | 1    | 41-000293      | KEY-1/4 X 3/4"                 |
| 15  | 1    | 41-013633      | PLATE-ADAPTER                  |
| 16  | 1    | 41-013641      | PLATE-HANDLE MOUNTING          |
| 17  | 2    | 41-013607      | PLATE-STEERING ADJ.            |
| 18  | 2    | 41-013592      | SPACER-REAR TIRE               |
| 19  | 1    | 41-500112      | TIRE-4.8/4.0-8                 |
| 20  | 2    | 41-500101      | TIRE-18"                       |
| 21  | 1    | 41-001090      | LOCATOR-CYLINDER               |
| 22  | 1    | LCYLINDER      | CYLINDER-LARGE                 |
| 23  | 2    | 41-013606      | SPACER-CYLINDER                |
| 24  | 1    | 41-013574      | MAST-INNER                     |
| 25  | 12   | 17-113320      | WASHER-5/8" FLAT               |
| 26  | 4    | 41-141013      | ROLLER-MAST                    |
| 27  | 1    | 41-013602      | STOP-CYLINDER END              |
| 28  | 1    | 41-141026      | 5TH WHEEL HITCH                |
| 29  | 1    | 41-013648      | FENDER-RIGHT                   |
| 30  | 1    | 41-013647      | FENDER-LEFT                    |

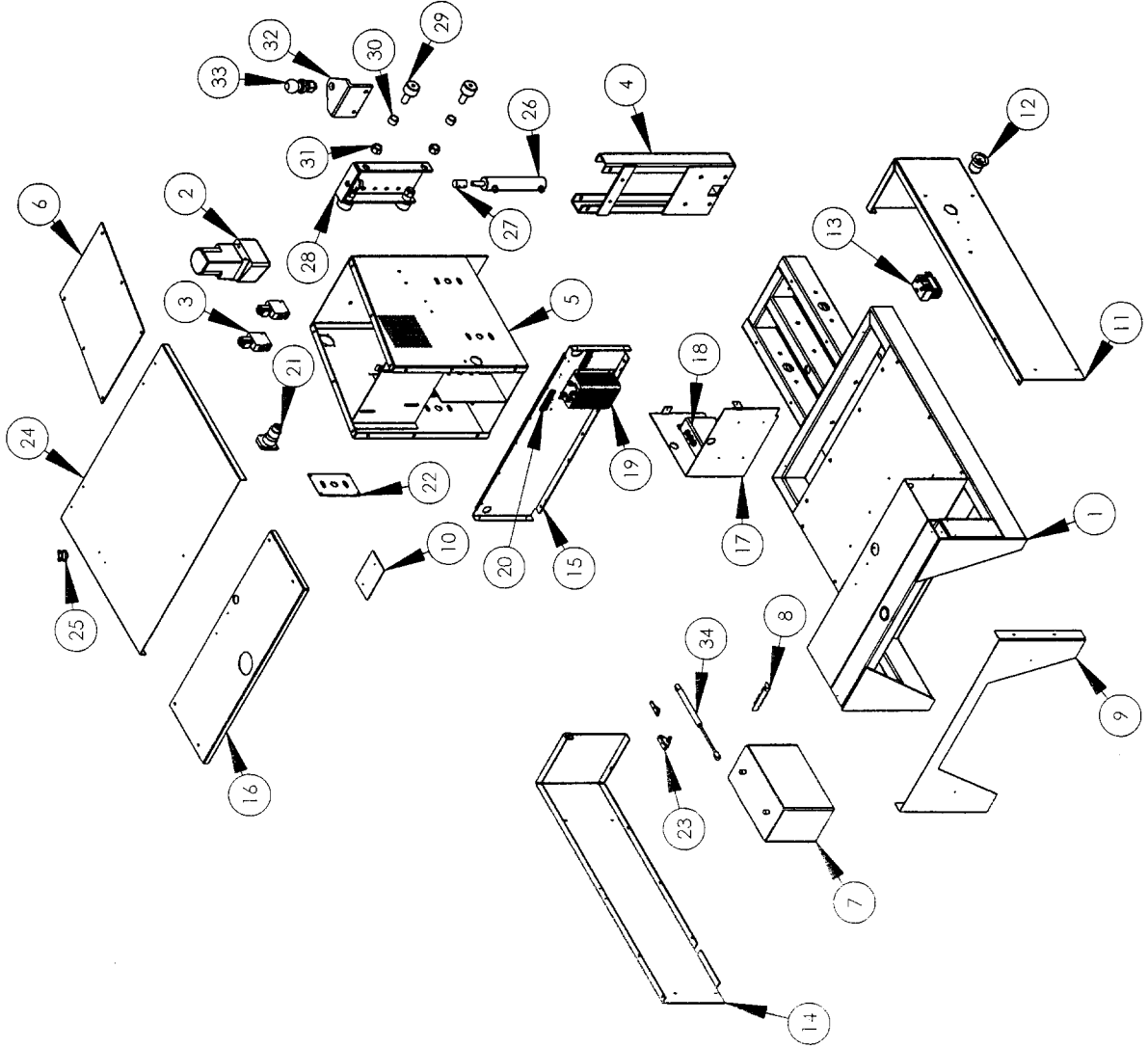
NOTE: NON MARKING TIRES # 19 USE 41-500114  
 #20 USE 41-500113

# HANDLE



| NO. | QTY. | PART NO.  | DESCRIPTION           |
|-----|------|-----------|-----------------------|
| 1   | 1    | 41-010005 | HANDLE-LOWER          |
| 2   | 3    | 41-940601 | TERMINAL STRIP        |
| 3   | 1    | 41-940582 | BREAKER-40 AMP        |
| 4   | 1    | 41-940002 | SWITCH-ROCKER         |
| 5   | 1    | 41-010008 | HANDLE-LEFT           |
| 6   | 1    | 41-010009 | HANDLE-RIGHT          |
| 7   | 1    | 41-940538 | SWITCH-KEY            |
| 8   | 1    | 41-141003 | THROTTLE-PB6          |
| 9   | 1    | 41-141038 | METER-HOUR            |
| 10  | 1    | 41-141011 | INDICATOR-BATTERY     |
| 11  | 1    | 41-940580 | SOCKET-12 PIN         |
| 12  | 1    | 41-612416 | HANDLE                |
| 13  | 2    | 41-900239 | GRIP-HANDLE           |
| 14  | 1    | 41-013509 | BRACKET-RELAY         |
| 15  | 1    | 41-940016 | RELAY-TIMER           |
| 16  | 1    | 41-940017 | RESISTOR              |
| 17  | 1    | 41-013508 | COVER-RELAY           |
| 18  | 1    | 41-013598 | COVER-CHARGER INLET   |
| 19  | 1    | 17-101011 | SWITCH-12 VOLT        |
| 20  | 4    | 17-143097 | BOOT SNAP SEAL        |
| 21  | 1    | 41-940006 | SWITCH-ON/OFF         |
| 22  | 1    | 41-940007 | SWITCH-OFF/ON         |
| 23  | 1    | 41-940015 | SWITCH-ON/OFF         |
| 24  | 1    | 41-001016 | BOX-EMERGENCY         |
| 25  | 1    | 41-001017 | COVER-EMERGENCY       |
| 26  | 1    | 41-940005 | SWITCH-EMERGENCY REV. |

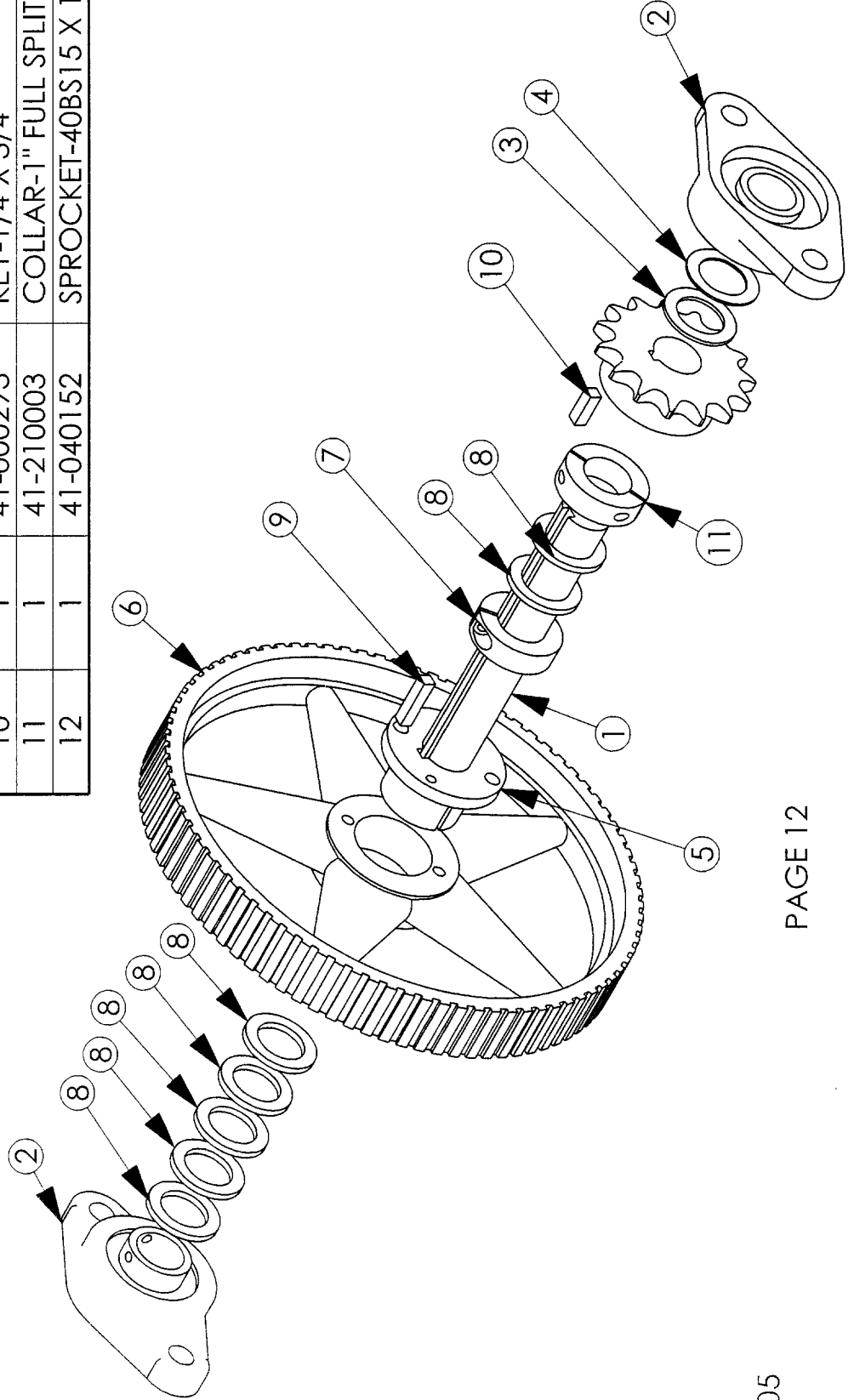
# CHASSIS



| NO. | QTY. | PART #    | DESCRIPTION            |
|-----|------|-----------|------------------------|
| 1   | 1    | 41-013566 | FRAME-MAIN             |
| 2   | 1    | PUMP      | PUMP                   |
| 3   | 2    | 41-940004 | VALVE-HYD.             |
| 4   | 1    | 41-001008 | MAIN-FRONT LIFT        |
| 5   | 1    | 41-013554 | HOUSING-FRONT WELDMENT |
| 6   | 1    | 41-013668 | PLATE-TOP COVER        |
| 7   | 4    | 41-001001 | BATTERY-12 VOLT        |
| 8   | 6    | 41-013521 | CLIP-BATTERY           |
| 9   | 1    | 41-013586 | PANEL-REAR             |
| 10  | 1    | 41-013636 | SHIM-DOOR              |
| 11  | 1    | 41-013583 | SIDE-RIGHT             |
| 12  | 1    | 41-940488 | COVER-INLET            |
| 13  | 1    | 41-141000 | SOLENOID-DC88          |
| 14  | 1    | 41-013584 | SIDE-LEFT              |
| 15  | 1    | 41-013589 | PANEL-FRONT            |
| 16  | 1    | 41-013587 | PANEL-TOP BACK         |
| 17  | 1    | 41-013585 | PLATE-BATTERY CHARGER  |
| 18  | 2    | 41-940500 | CHARGER-BATTERY        |
| 19  | 1    | 41-141039 | CONTROLLER-MOTOR       |
| 20  | 2    | 41-940601 | TERMINAL STRIP         |
| 21  | 1    | 41-940442 | CONNECTOR-FEMALE 7 WAY |
| 22  | 1    | 41-013657 | DOOR-LEFT SIDE         |
| 23  | 2    | 41-141018 | BRACKET-STRUT          |
| 24  | 1    | 41-013588 | DOOR-TOP               |
| 25  | 1    | 41-900023 | KNOB                   |
| 26  | 1    | CYLINDER  | CYLINDER-7"            |
| 27  | 1    | 41-013547 | ADAPTER-CYLINDER       |
| 28  | 1    | 41-001005 | PLATE-ROLLER           |
| 29  | 4    | 41-141010 | CAM-FOLLOWER           |
| 30  | 4    | 41-010044 | SPACER-LIFT            |
| 31  | 4    | 41-020060 | NUT-7/8-14             |
| 32  | 1    | 41-001006 | BRACKET-HITCH B ALL    |
| 33  | 1    | 41-290157 | BALL-HITCH             |
| 34  | 1    | 41-141016 | STRUT-DOOR             |

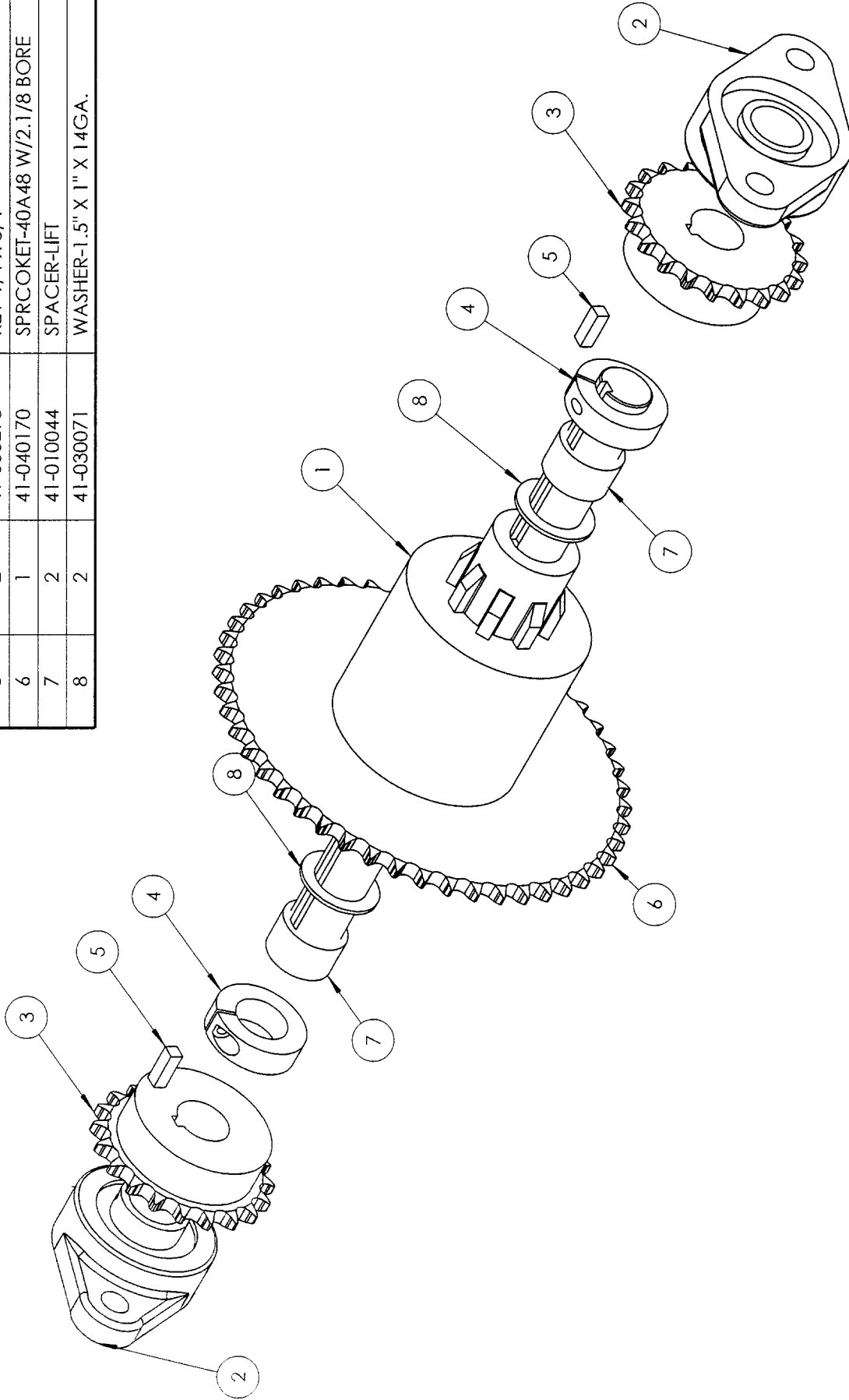
SHAFT 1

| NO. | QTY. | PART #    | DESCRIPTION              |
|-----|------|-----------|--------------------------|
| 1   | 1    | 41-070506 | SHAFT-SPROCKET           |
| 2   | 2    | 41-090115 | BEARING-SIDE             |
| 3   | 1    | 41-030071 | WASHER-1.5" X 1" X 14GA. |
| 4   | 1    | 41-030040 | WASHER-1.5" X 1" X 18GA. |
| 5   | 1    | 41-050114 | HUB-SHEAVE               |
| 6   | 1    | 41-050112 | SHEAVE-84T BELT          |
| 7   | 1    | 41-210005 | COLLAR-1" SPLIT          |
| 8   | 7    | 41-030072 | WASHER-1.5" X 1" X 10GA. |
| 9   | 1    | 41-000292 | KEY-1/4 X 1 1/8"         |
| 10  | 1    | 41-000293 | KEY-1/4 X 3/4"           |
| 11  | 1    | 41-210003 | COLLAR-1" FULL SPLIT     |
| 12  | 1    | 41-040152 | SPROCKET-40BS15 X 1"     |



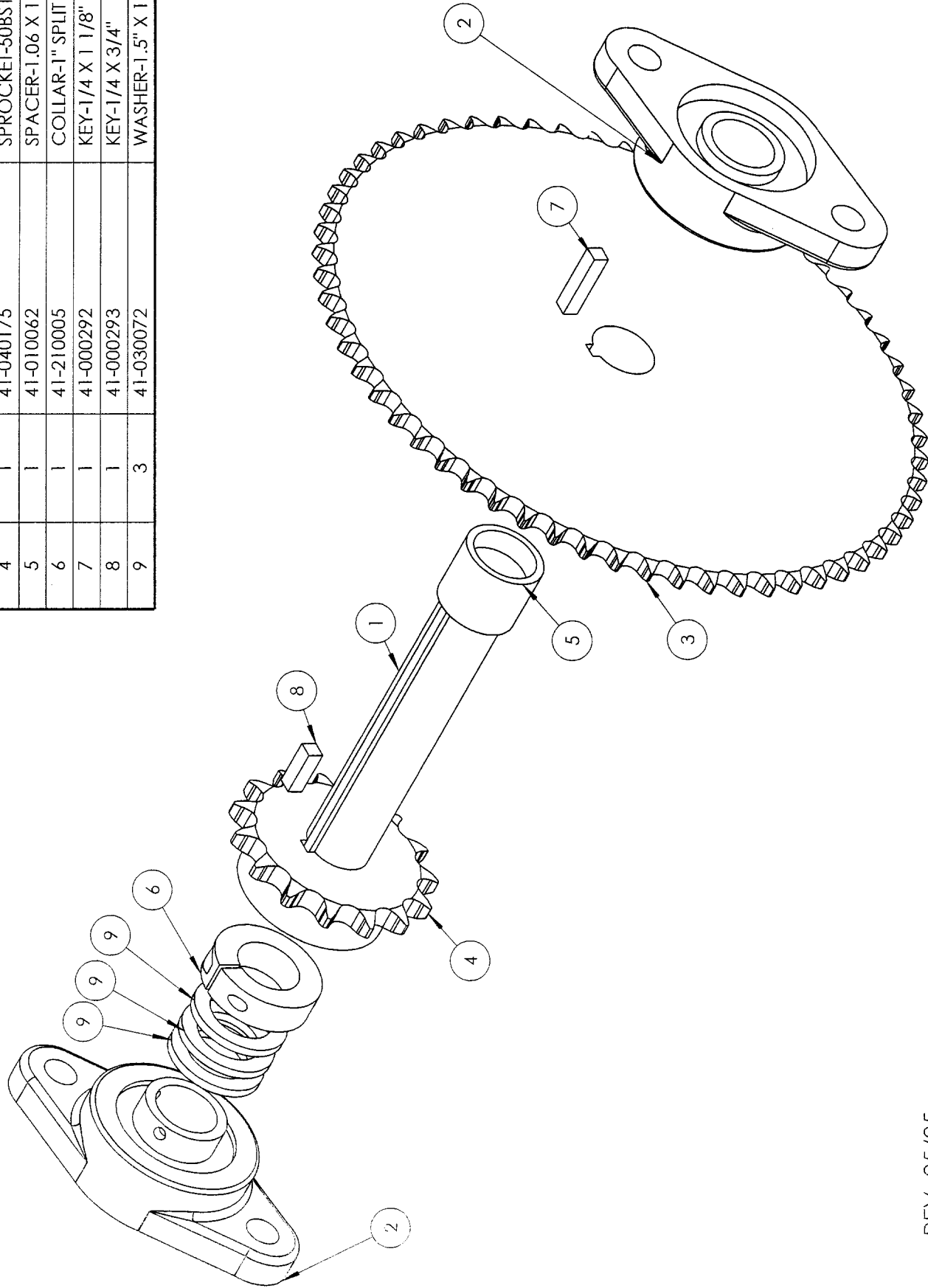
# DIFFERENTIAL SHAFT (SHAFT 2)

| NO. | QTY. | PART #    | DESCRIPTION                 |
|-----|------|-----------|-----------------------------|
| 1   | 1    | 41-001379 | DIFFERENTIAL-H.I.D.         |
| 2   | 2    | 41-090115 | BEARING-SIDE                |
| 3   | 2    | 41-040177 | SPROCKET-40BS20 X 1"        |
| 4   | 2    | 41-210005 | COLLAR-1" SPLIT             |
| 5   | 2    | 41-000293 | KEY-1/4 X 3/4"              |
| 6   | 1    | 41-040170 | SPROCKET-40A48 W/2.1/8 BORE |
| 7   | 2    | 41-010044 | SPACER-LIFT                 |
| 8   | 2    | 41-030071 | WASHER-1.5" X 1" X 14GA.    |



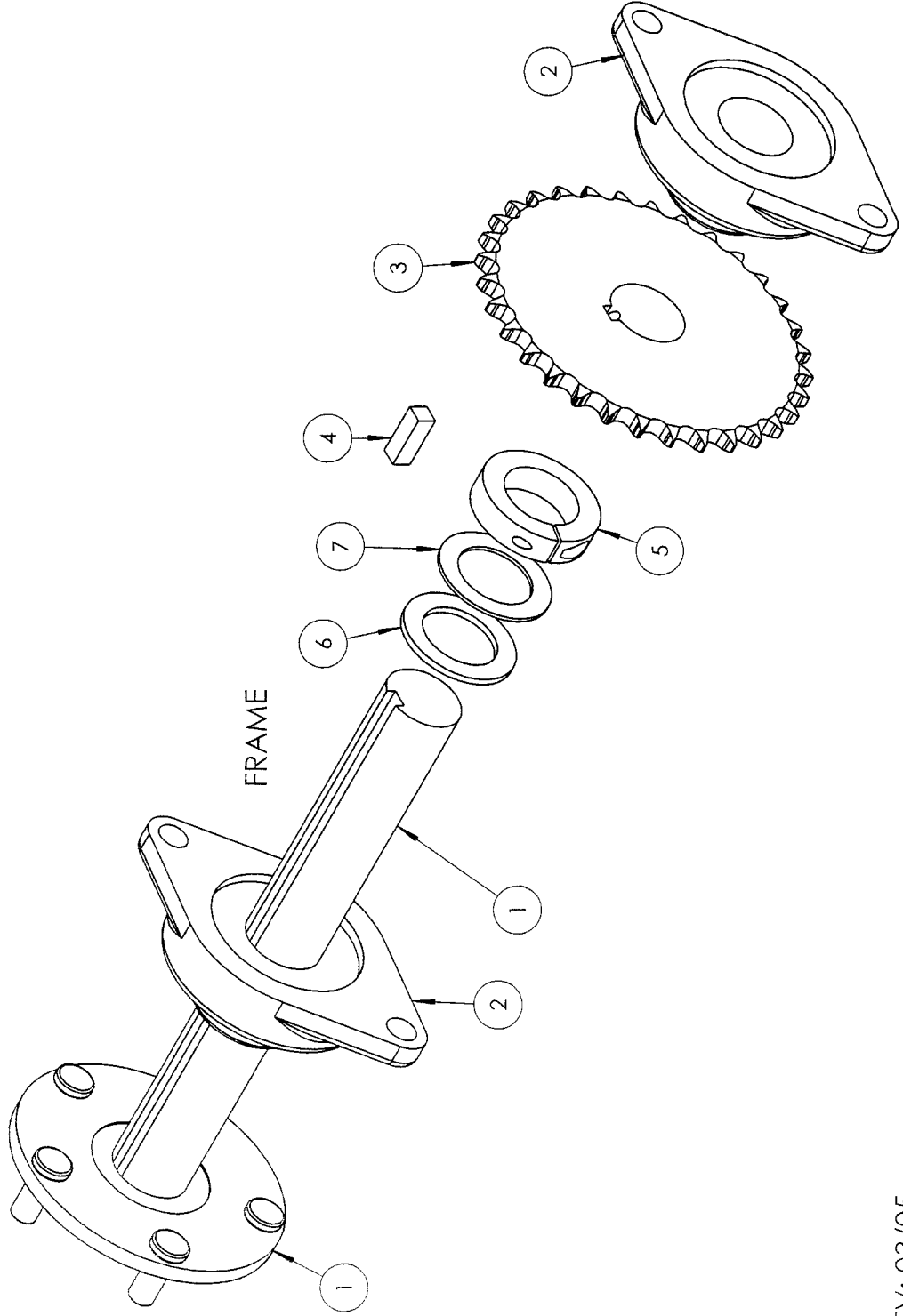
# LOWER SHAFT (SHAFT 3)

| NO. | QTY. | PART #    | DESCRIPTION              |
|-----|------|-----------|--------------------------|
| 1   | 1    | 41-070506 | SHAFT-SPROCKET           |
| 2   | 2    | 41-090115 | BEARING-SIDE             |
| 3   | 1    | 41-040176 | SPROCKET-40BS60 X 1"     |
| 4   | 1    | 41-040175 | SPROCKET-50BS15 X 1"     |
| 5   | 1    | 41-010062 | SPACER-1.06 X 1.25 X 1.0 |
| 6   | 1    | 41-210005 | COLLAR-1" SPLIT          |
| 7   | 1    | 41-000292 | KEY-1/4 X 1 1/8"         |
| 8   | 1    | 41-000293 | KEY-1/4 X 3/4"           |
| 9   | 3    | 41-030072 | WASHER-1.5" X 1" X 10GA. |

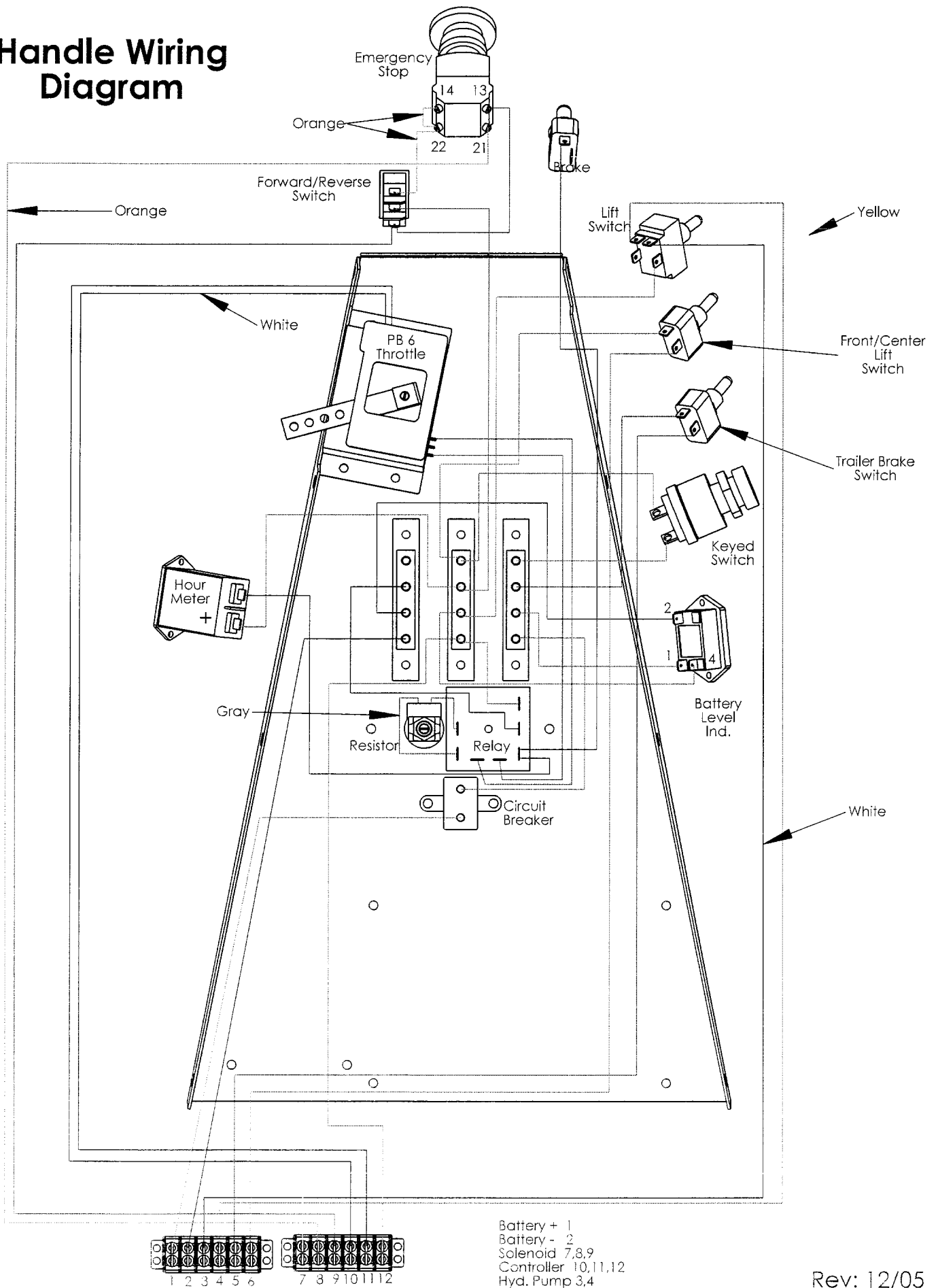


# AXLE SHAFT (SHAFT #4)

| NO. | QTY. | PART #    | DESCRIPTION                 |
|-----|------|-----------|-----------------------------|
| 1   | 1    | 41-070625 | STUBAXLE                    |
| 2   | 2    | 41-090118 | BEARING-1 1/2" SIDE         |
| 3   | 1    | 41-040168 | SPROCKET-50BS32 X 1.5"      |
| 4   | 1    | 41-000295 | KEY-3/8 X 1 1/8"            |
| 5   | 1    | 41-210004 | COLLAR-1 1/2" SPLIT         |
| 6   | 1    | 41-030051 | WASHER-2.25" X 1.5" X 10GA. |
| 7   | 1    | 41-030042 | WASHER-2.25" X 1.5" X 14GA. |

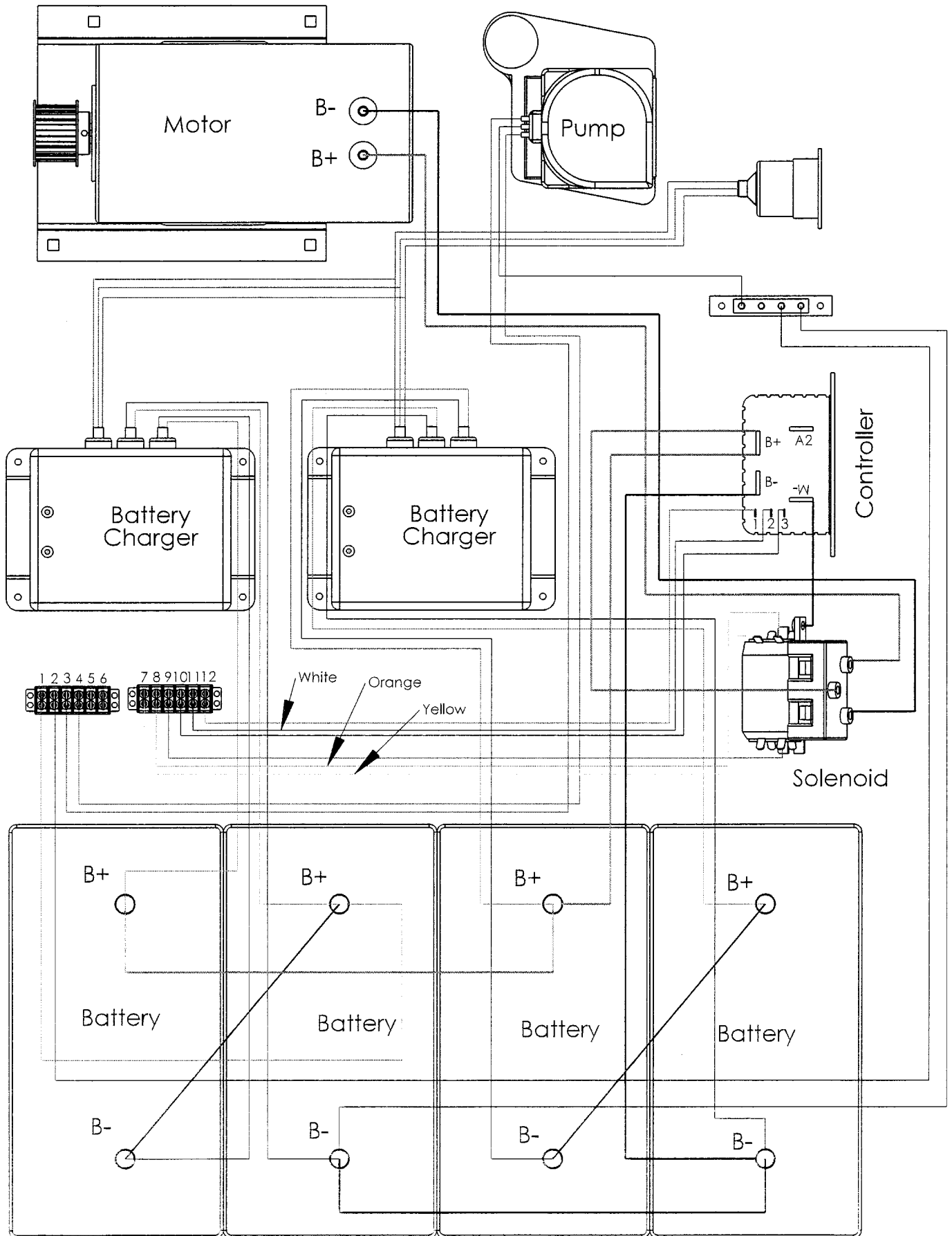


# Handle Wiring Diagram





# CHASSIS WIRING



# CHASSIS WIRING

