#### THE



# MODELS 1324 & 1624 & 1824

# **HYDRAULIC TRENCHERS**

#### **CONGRATULATIONS!**

You are now the proud owner of a BARRETO trencher. Please take a moment of your time to look over the following information. Familiarize yourself with the trencher, its characteristics, and method of operation. Pay particular attention to the safety and operating instructions.

If you have any questions or need any replacement parts in the future, please contact us at your convenience. Our toll-free phone number, fax and email are listed below.

THANK YOU for your patronage and confidence in BARRETO equipment.

Barreto Manufacturing, Inc. Innovative Equipment Engineered to Last 66498 Hwy 203, La Grande, OR 97850 (800) 525-7348 (541) 963-7348 FAX (541) 963-6755

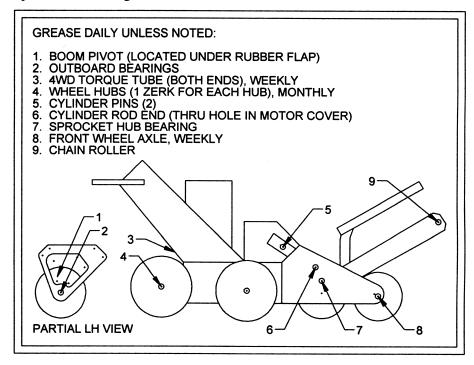
E-Mail: <a href="mailto:info@barretomfg.com">info@barretomfg.com</a>
Web Site: <a href="http://www.barretomfg.com">http://www.barretomfg.com</a>

#### ASSEMBLY INSTRUCTIONS

- 1. Remove trencher from shipping crate.
- 2. Install boom onto boom pivot/mount with the 7/8" wide wear strip on bottom side of boom. Push boom on as far as it will go. Be sure adjuster screw is backed out.

#### SERVICE INFORMATION

- 1. Check reservoir level using sight glass on the left side of the tank. If required, add to reservoir with tractor transmission hydraulic oil. (Shell DONAX TD FLUID or comparable). The tank holds approximately 15 gallons of hydraulic oil. Recheck oil level after the trencher has been run and oil has been circulated through the wheel and chain motors. Routinely check level thereafter. DO NOT OVERFILL THE TANK.
- 2. Change hydraulic oil filter after the first 50 hours of use. Change it every 200 hours thereafter.
- 3. Add 1 quart of hydraulic oil to reservoir with each filter change.
- 4. Check all hydraulic fittings for leaks and tighten if necessary.
- 5. Grease per the following chart:

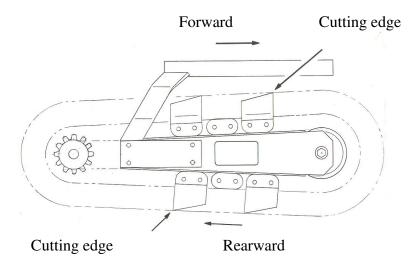


<u>IMPORTANT:</u> The engine is normally serviced prior to shipping. However, shipping regulations may prohibit this. Check levels and add oil and fuel as required before starting. Service according to the engine manual before starting.

<u>WARNING:</u> Running the engine without hydraulic oil will cause serious damage to the hydraulic pump. CHECK RESERVOIR LEVEL BEFORE STARTING THE MACHINE.

#### DIGGING CHAIN INSTALLATION

- 1. Slide digging chain under sprocket, with teeth in the correct cutting direction. Properly installed, the cutting edges of the chain will face forward on the top of the boom and rearward on the bottom of the boom (see diagram below).
- 2. Start engine. Push digging boom control lever forward to lower boom onto the chain. Shut off engine.
- 3. Wrap chain around boom and sprocket. Install chain master link or link pin.
- 4. Use boom adjuster screw to tighten chain. Chain should have enough slack to allow approximately 2" of space between middle of boom and chain when boom and chain are straight out in a horizontal position.
- 5. Tighten adjuster screw locknut and 4 boom mounting bolts.



#### BARRETO TRENCHER OPERATING INSTRUCTIONS

#### READ SAFETY INSTRUCTIONS BEFORE OPERATING!

Be sure that the engine oil, fuel and hydraulic oil are at proper levels before starting the engine.

# STUDY AND UNDERSTAND CONTROLS BEFORE BEGINNING OPERATION.

- 1. IGNITION: Must be in "ON" position to start. "OFF" to stop.
- 2. ENGINE: This is the throttle. It controls engine speed. Operate at full throttle (all the way forward).
- 3. CLUTCH LEVER: (At left handle grip). Activates GROUND SPEED and DIGGING CHAIN controls when pulled up. Stops all motion when released. DIGGING CHAIN control must be HELD in "ON" position as clutch lever is depressed in order to start chain in motion.
- 4. AXLE: "UNLOCK" position (down) is for maneuvering. "LOCK" position (up) is for digging. UNLOCK allows left wheel to freewheel while right wheel drives.
- 5. DIGGING BOOM: Raises and lowers the digging boom.
- 6. DIGGING CHAIN: Starts chain in forward rotation after clutch lever is engaged.
- 7. CHAIN: Allows manual operation of chain in forward or reverse rotation to dislodge objects or dig difficult terrain. (This control can be used with the Clutch Lever released.) To reverse chain, DIGGING CHAIN control must be in "OFF" position.
- 8. GROUND SPEED: Controls wheel speed forward or reverse after clutch lever is engaged.
- 9. GETTING STARTED: Start and warm up engine. Drive trencher to starting location with AXLE in "UNLOCK" position. LOCK AXLE. Hold DIGGING CHAIN control in "ON" position. With GROUND SPEED control in neutral, pull up CLUTCH LEVER and slowly lower DIGGING BOOM to desired depth. Slowly move GROUND SPEED control in REVERSE direction until desired speed is reached. (Varying soil conditions may require adjustments to ground speed to avoid wheel spin or engine overload.)
- 10. FOR HARD TO DIG AREAS or if object (rock or root) gets lodged in chain, release CLUTCH LEVER. This will lock wheels in position. Manually reverse chain with the CHAIN control to dislodge object. Manually run chain forward with CHAIN control to dig through roots or rocky areas. Intermittently activate CLUTCH LEVER to move trencher back a few inches and repeat until hard area is passed. Resume normal operation.

ALWAYS THOROUGHLY CLEAN AND SERVICE TRENCHER AFTER EACH USE.

#### BARRETO HYDRAULIC TRENCHER

## **SAFETY INSTRUCTIONS**

- READ SAFETY AND OPERATING INSTRUCTIONS BEFORE OPERATING!
- Do not leave trencher unattended with the engine running.
- No parking brake. Always leave trencher parked on a level surface.
- The **SAFETY CLUTCH** lever on the left handlebar is for operator protection. **DO NOT TAPE DOWN OR OTHERWISE BY-PASS THIS CLUTCH.**
- Objects may become airborne while operating trencher. Wear safety goggles and hard hat while operating or observing!
- Digging chain, auger and other moving parts can cut off arms, legs, or fingers. **STAY CLEAR!**
- Buried cables or gas lines can cause serious injury or death. Contact local agencies for location.
- Exhaust and fuel fumes can cause illness or death. Operate outdoors and avoid breathing exhaust and fumes.
- Fuel fumes can catch fire or explode. Do not smoke or operate near flames or sparks.
- Hydraulic oil is under extreme pressure and can get under skin and burn or poison. Check for leaks with cardboard.
- Muffler and engine get hot enough to cause serious burns. Do not touch until cool.

### BARRETO MANUFACTURING, INC.

## **EQUIPMENT WARRANTY**

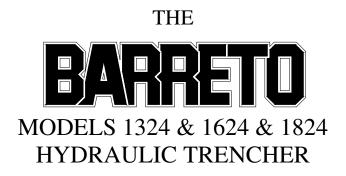
Barreto Manufacturing, Inc. warrants all BARRETO equipment to free of defects in material and workmanship for a period of one (1) year, dating from the delivery to the original user.

This warranty is in lieu of all other warranties, whether written or implied, and is limited to:

- 1. Replacement of parts returned to the dealer and/or factory and determined defective upon inspection. (Replacement for parts to dealers shall be at dealer cost plus shipping charges.)
- 2. Time for pick-up and/or delivery, transportation of service calls by dealers is excluded. Manufacturer reserves the right to determine reasonable time required for repair.

Warranty does not apply to damage caused by abuse or neglect. Time and materials required for normal maintenance and service are also excluded from warranty coverage.

Engines, engine accessories and tires are warranted by the original manufactures and are not covered by the Barreto Equipment Warranty.

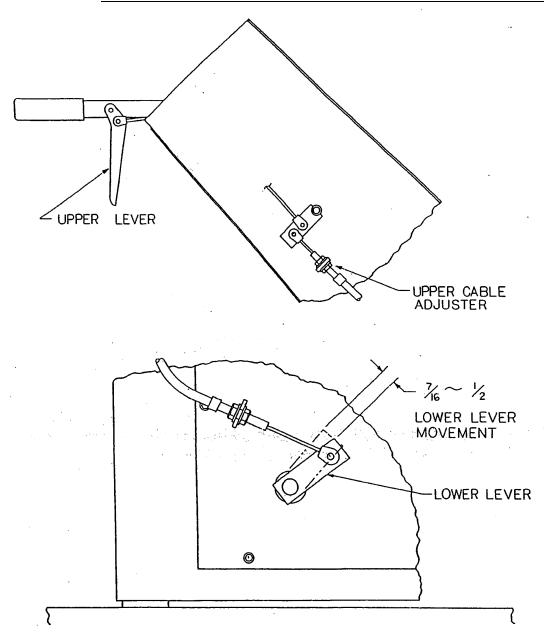


## CONTROL ADJUSTMENT INSTRUCTIONS

The following pages contain instructions for:

- WHEEL DRIVE CLUTCH CABLE ADJUSTMENT (Illustration A)
- DIGGING CHAIN VALVE LEVER ADJUSTMENT (Illustration B)
- AXLE LOCK ADJUSTMENT (Illustration C)
- SPEED CABLE ADJUSTMENT (Illustration D)
- SPEED LINKAGE ADJUSTMENT (Illustration E)
- SPEED CONTROL LINKAGE DIG SPEED ADJUSTMENT (Illustration F)

## WHEEL DRIVE VALVE CABLE ADJUSTMENT



The clutch cable and lever must have some free play.

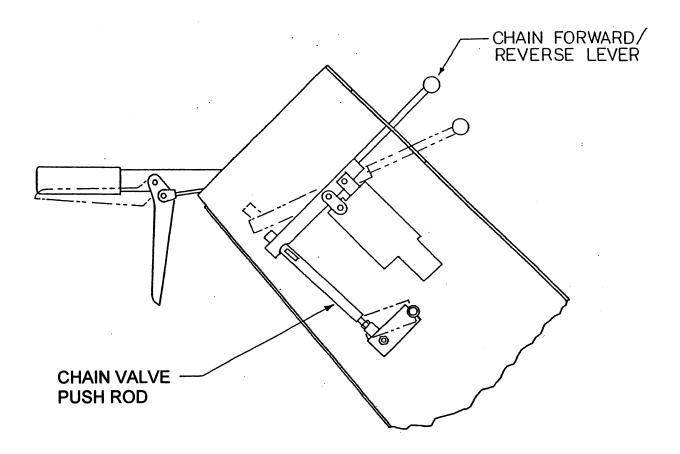
Rotate the lower lever counter-clockwise, by hand, to take up any free play. Measure the location of the pin of the lower lever.

Pull upper lever all the way up until it touches the hand grip. Measure the location of lower lever with the upper lever pulled up. (Measure at the pin.)

Adjust cable to give 7/16" to 1/2" movement of the lower lever. Do not include any lever free play in the measurement.

#### Illustration A

## **DIGGING CHAIN VALVE LEVER ADJUSTMENT**



Put Digging Chain lever in ON position.

Pull clutch lever all the way up until it touches the hand grip.

Check the stroke of the CHAIN forward/reverse lever. The length of the chain valve push rod should be adjusted so the forward/reverse lever comes to the end of its stroke just as the clutch lever touches the hand grip.

Illustration B

### AXLE LOCK ADJUSTMENT

Cable should be adjusted so there is no slack in cable when upper lock lever is in the unlock position. There should also be no tension on lock spring at lower lever.

Measure the position of the lower lock lever. Measure at the tip of the lever.

Put Axle lock lever in LOCK position.

Push down on handlebars and rotate trencher side-to-side to align the axle gears. The lower lock lever should snap into its lock position.

Measure the position of the lower lock lever.

The movement of the lower lock lever should be 9/16" to 5/8" from the LOCK position to the UNLOCK position.

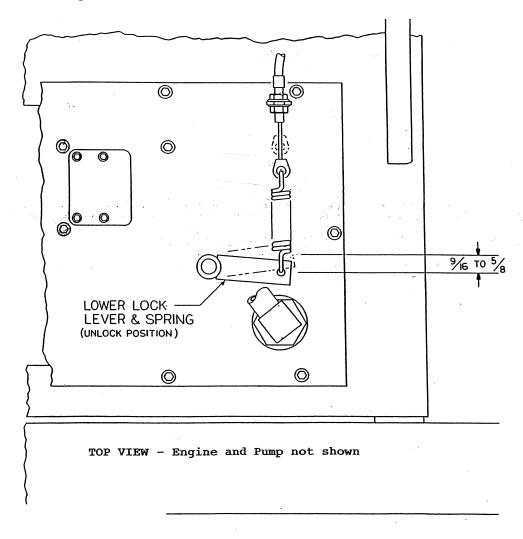
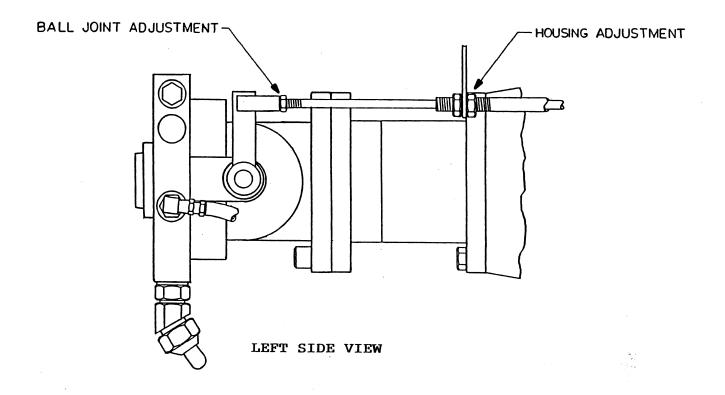


Illustration C

## SPEED CABLE ADJUSTMENT



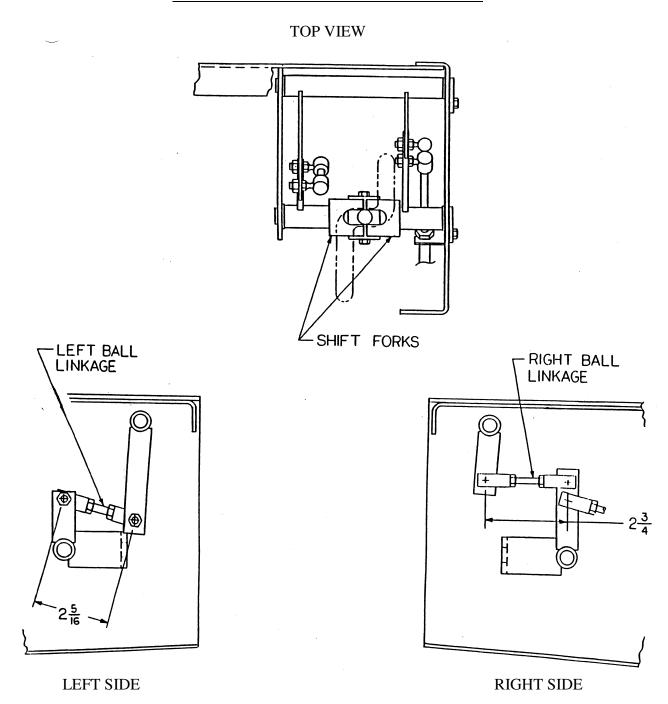
Speed cable should be adjusted so trencher is stationary when clutch lever is pulled up and speed lever is in neutral.

Speed cable should be adjusted if trencher creeps when in neutral.

Loosen locknuts and adjust as needed. Adjustment may be made at both ends of cable housing. Fine adjustments may be made at ball joint end on the hydrostatic pump lever.

Illustration D

## SPEED LINKAGE ADJUSTMENT

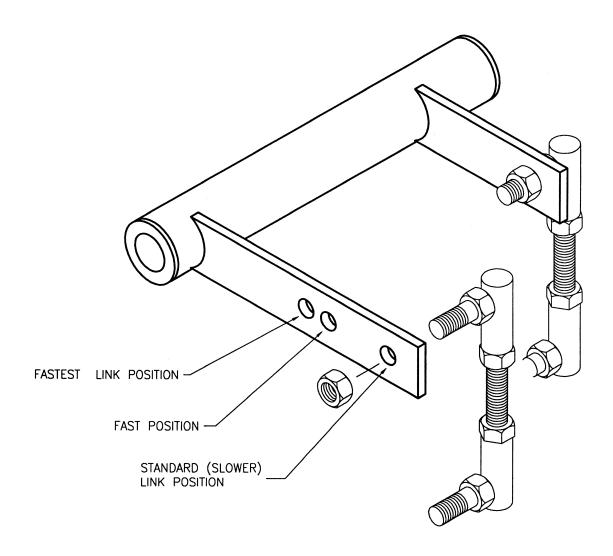


Proper alignment of the shift forks will allow the ground speed lever to move smoothly from the forward position to neutral; from neutral to reverse; and back to the forward position.

If the ground speed lever does not move left and right freely, the shift forks may be out of alignment. Adjust the length of the left or right ball linkage to bring both shift forks into alignment when the ground speed lever is in the neutral position.

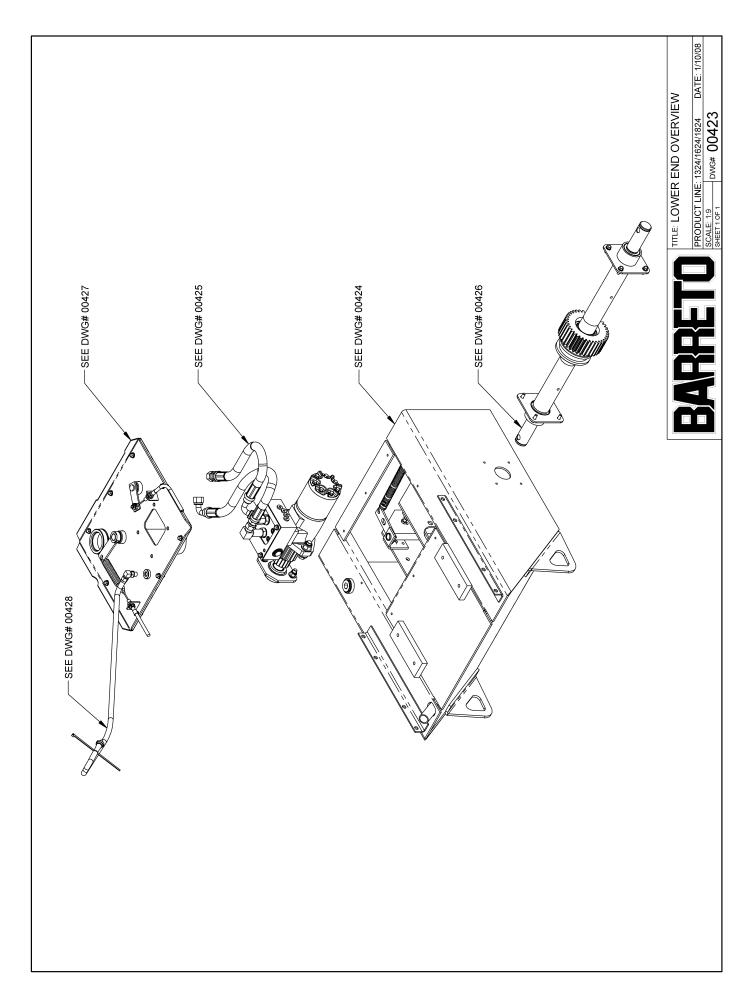
Illustration E

## SPEED CONTROL LINKAGE DIG SPEED ADJUSTMENT

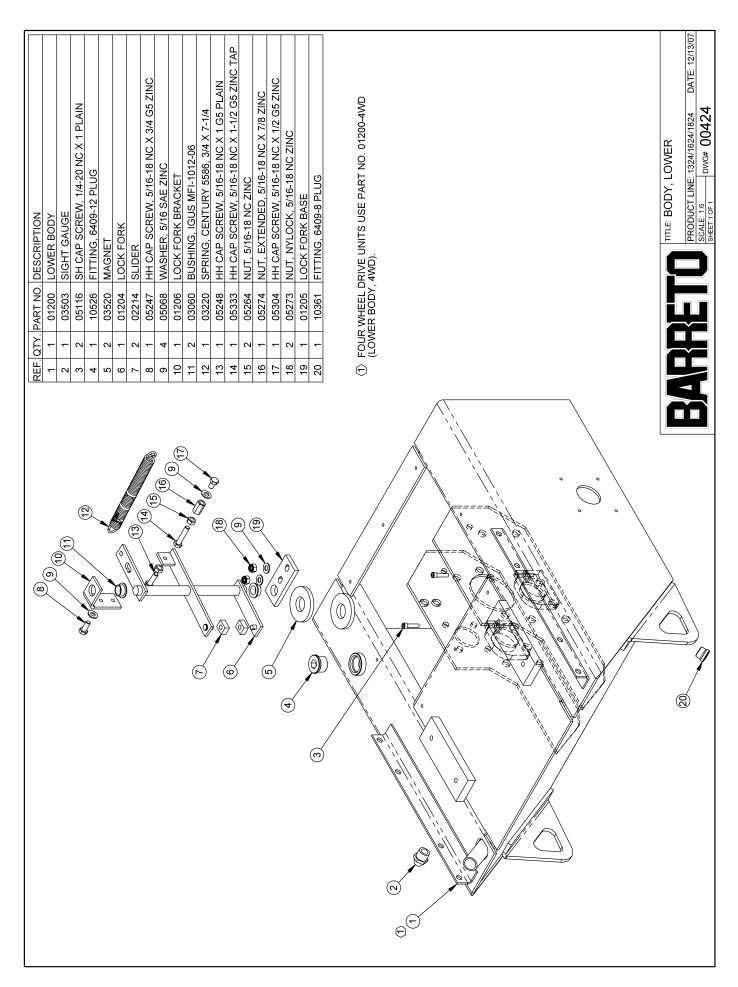


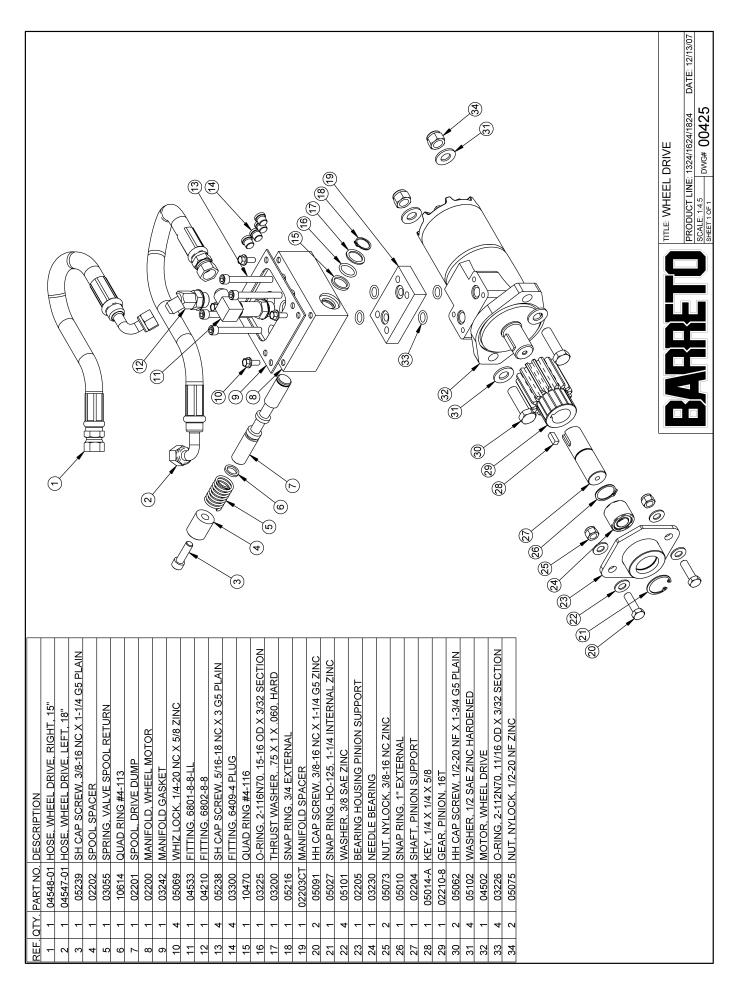
When speed adjustment is made, adjustments to ball joint links may be needed to maintain shift fork alignment (see illustration E)

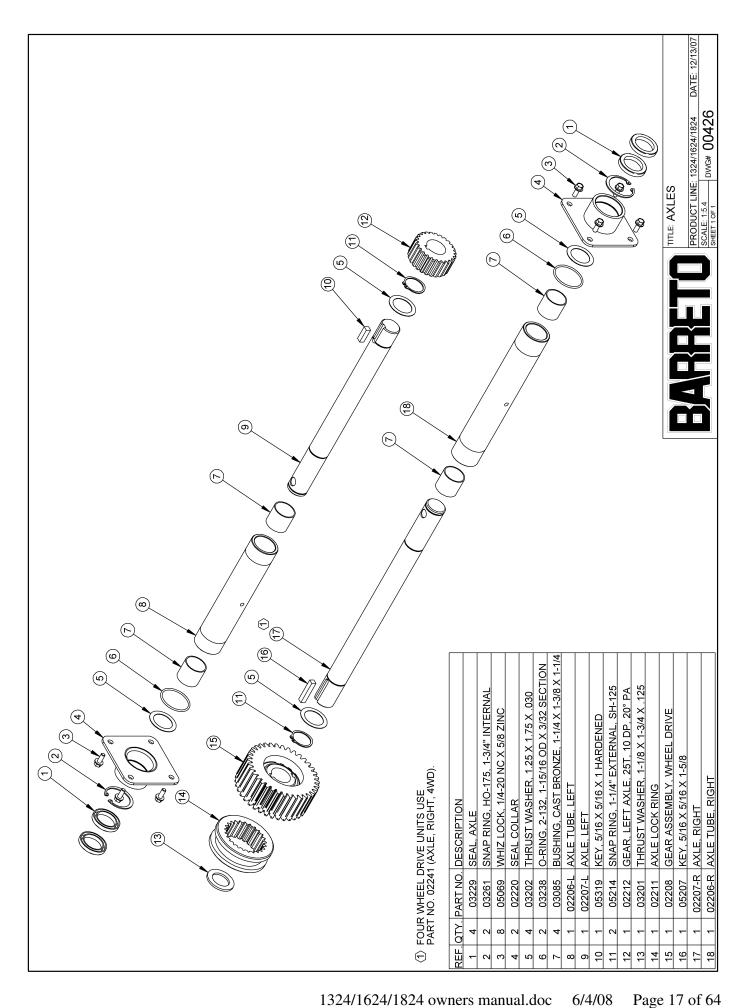
Illustration F

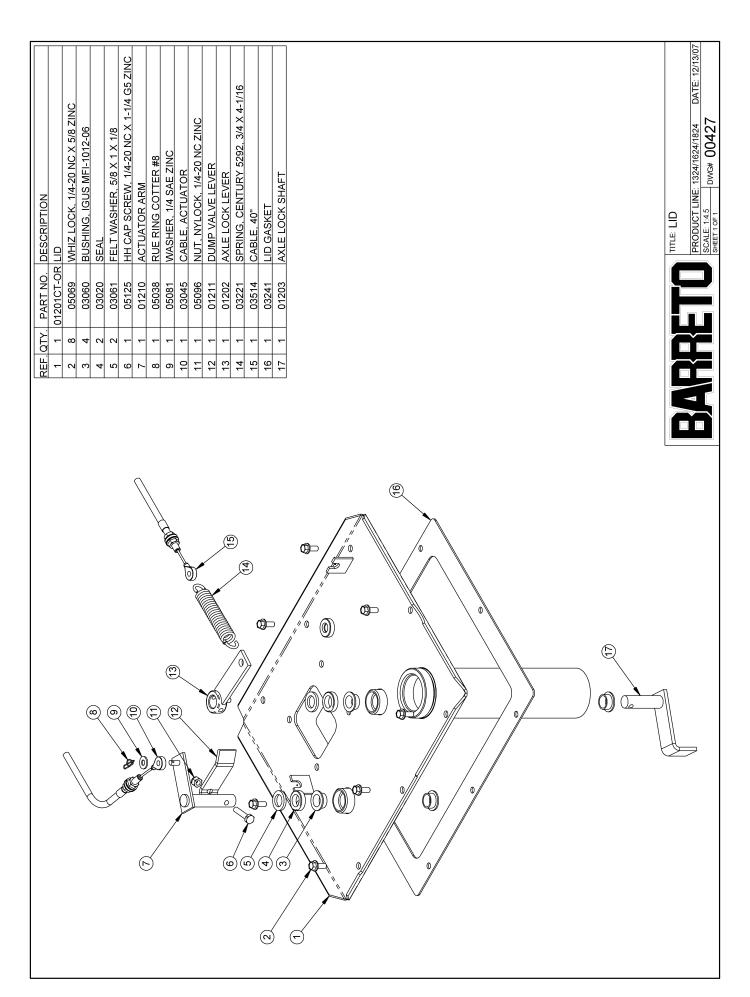


Page 14 of 64 6/4/08 1324/1624/1824 owners manual.doc

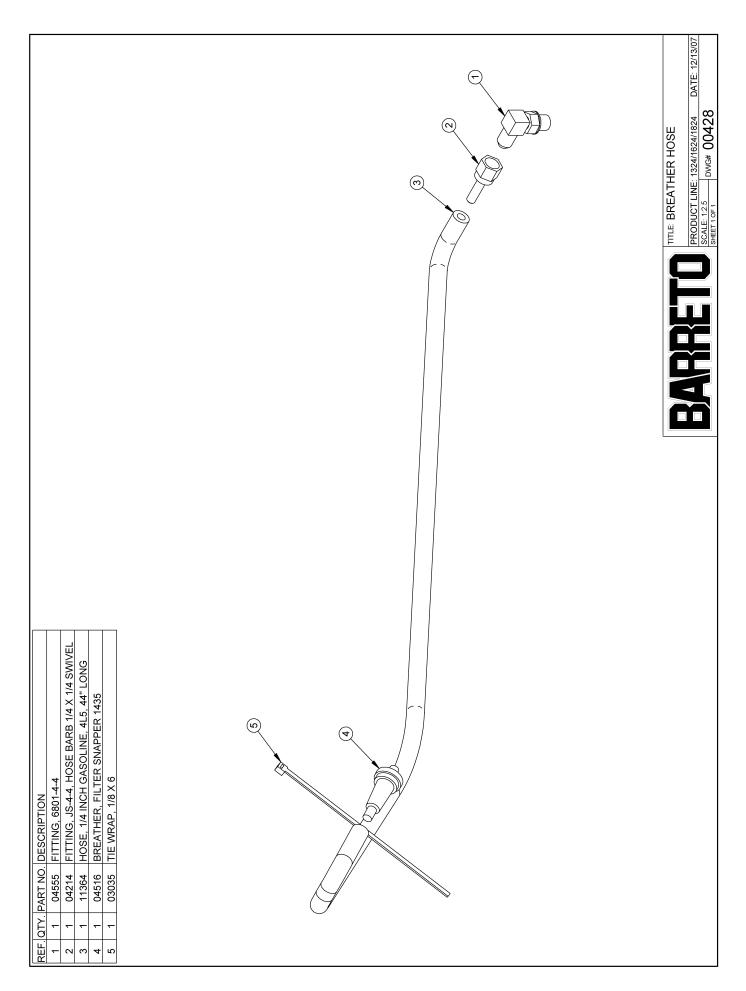


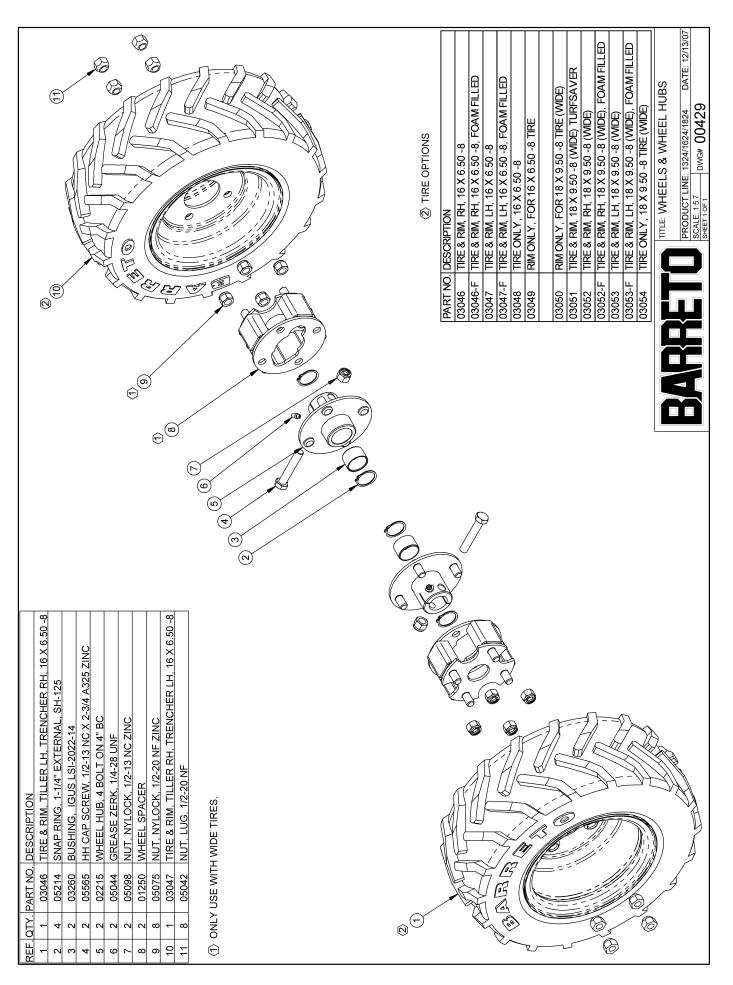




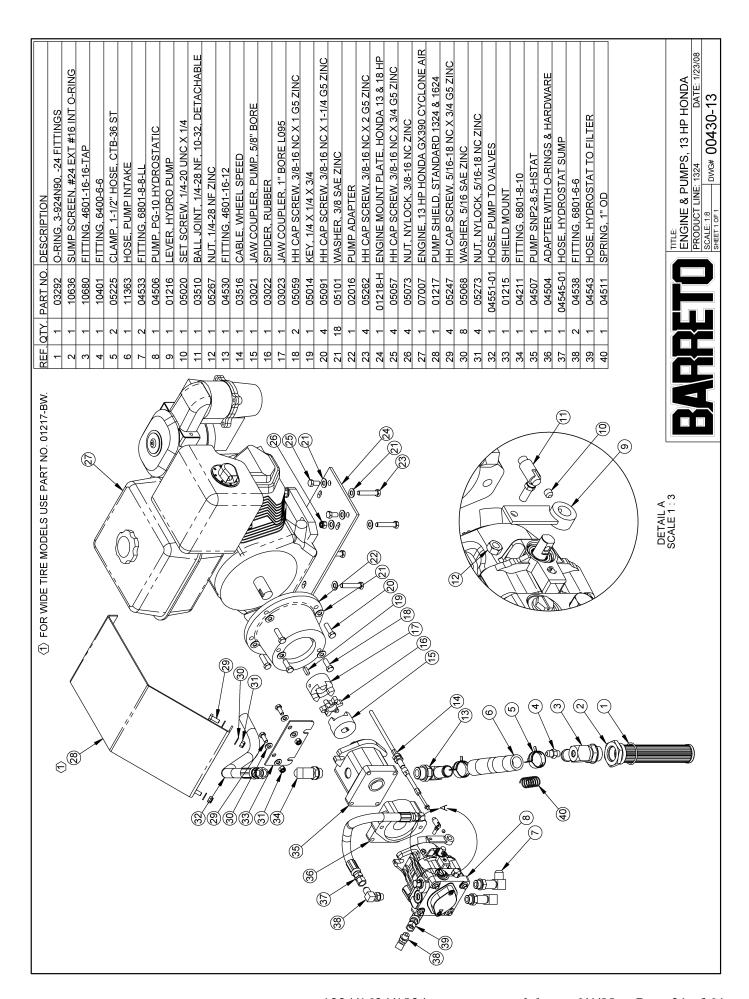


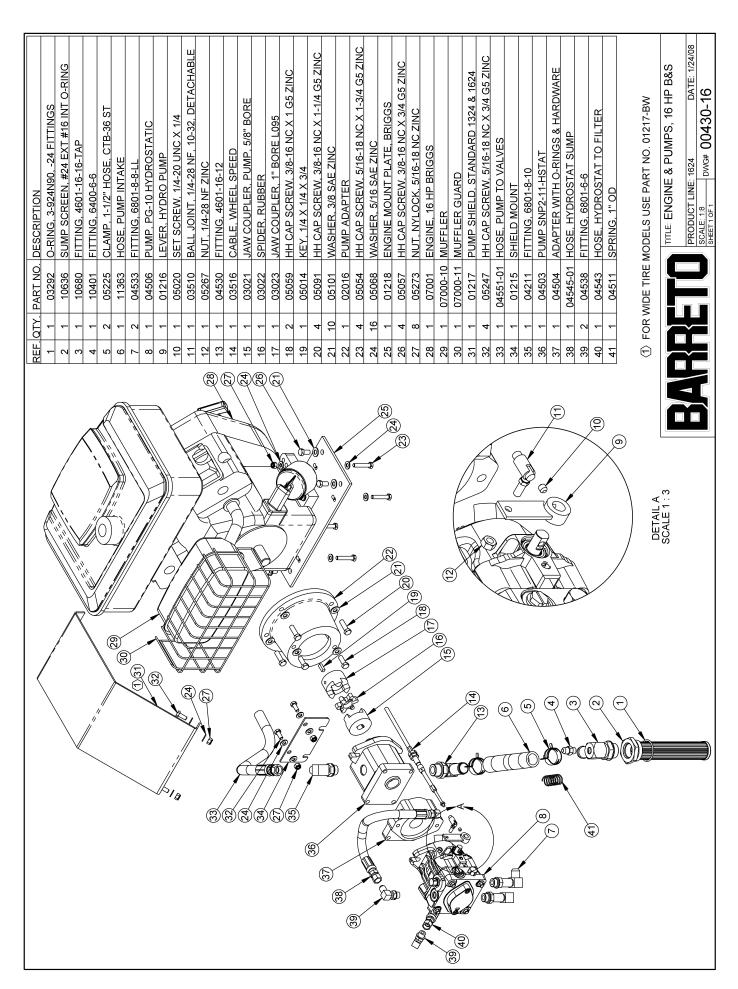
Page 18 of 64 6/4/08 1324/1624/1824 owners manual.doc



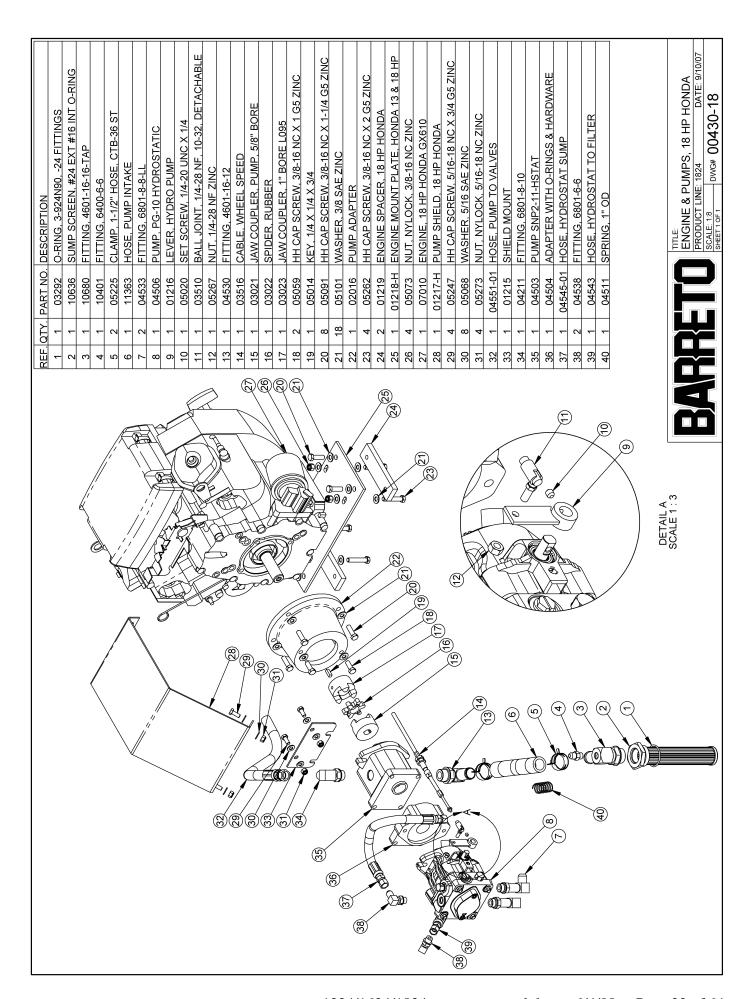


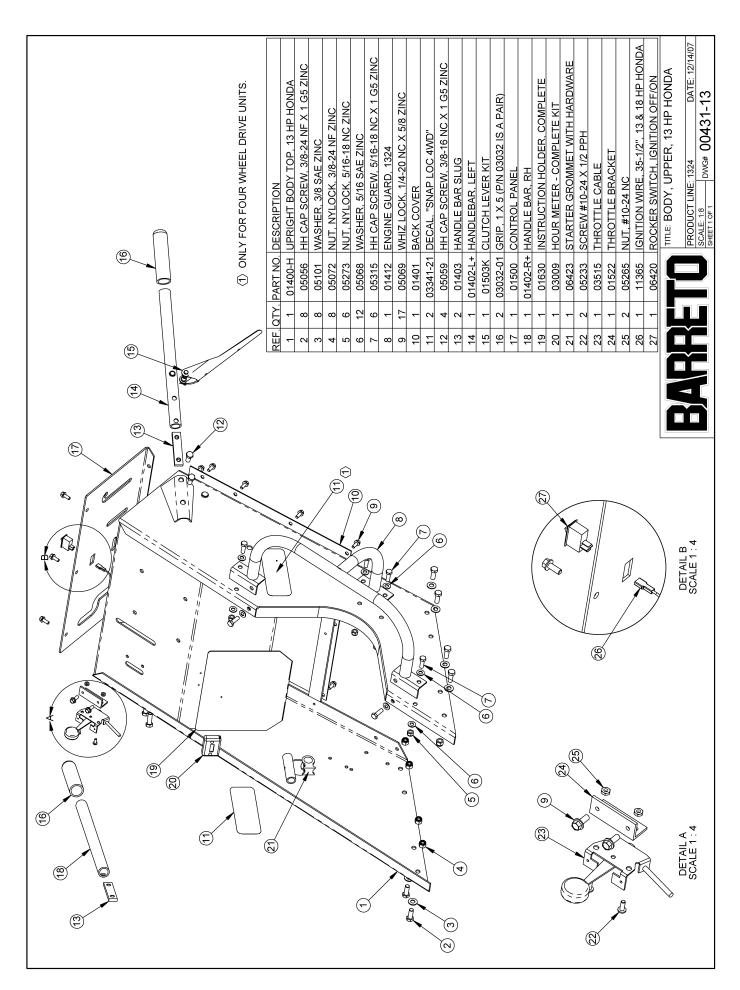
Page 20 of 64 6/4/08 1324/1624/1824 owners manual.doc



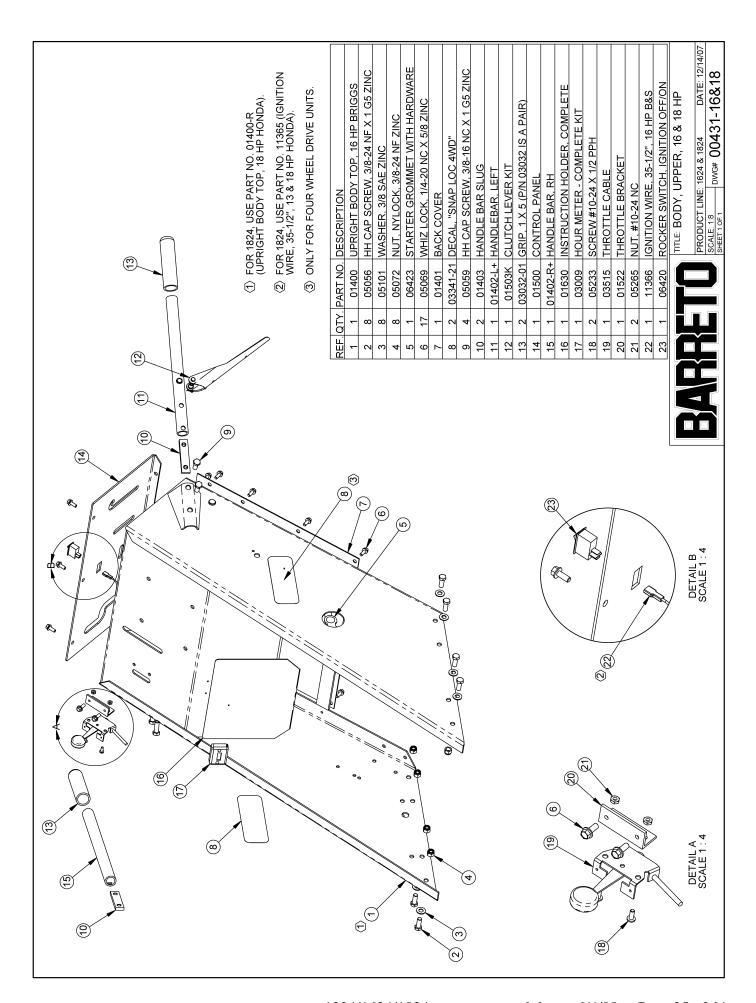


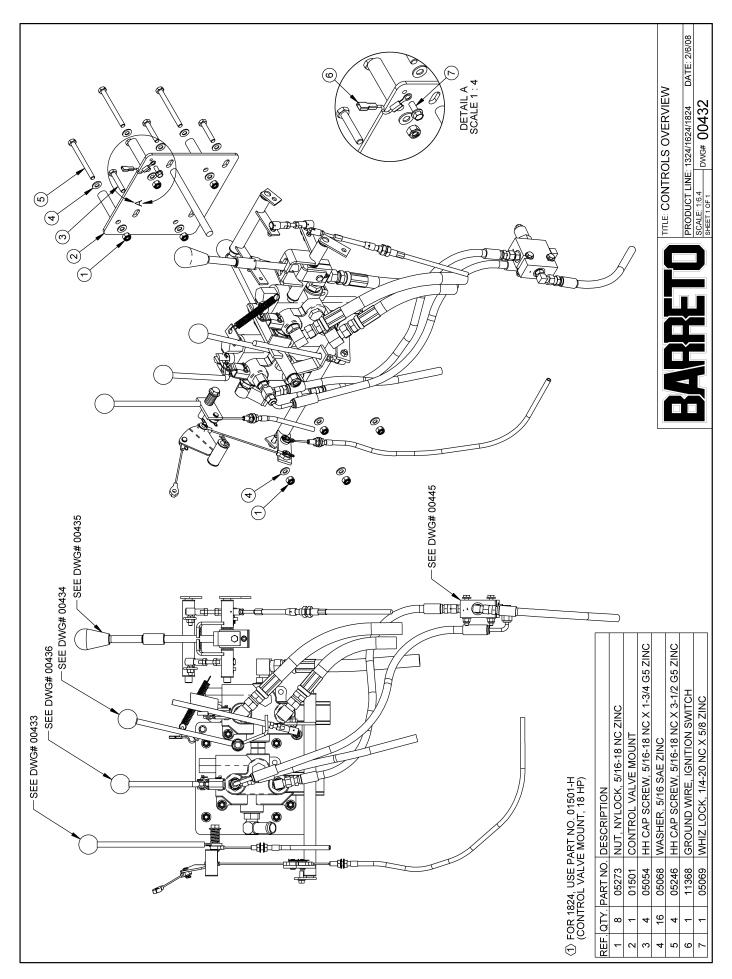
Page 22 of 64 6/4/08 1324/1624/1824 owners manual.doc



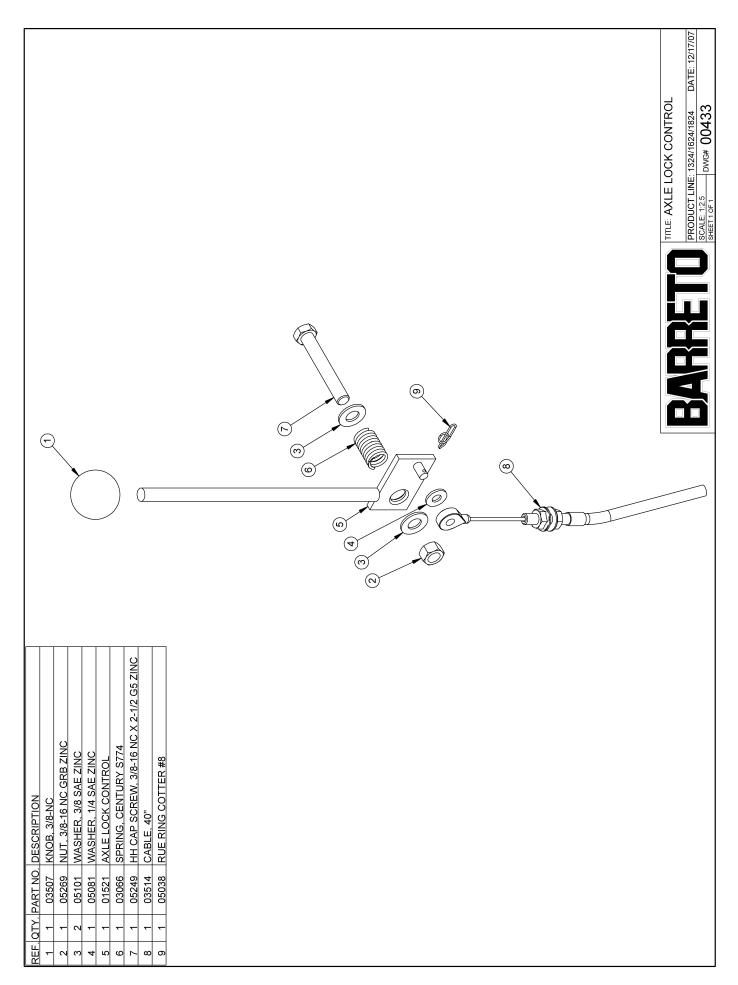


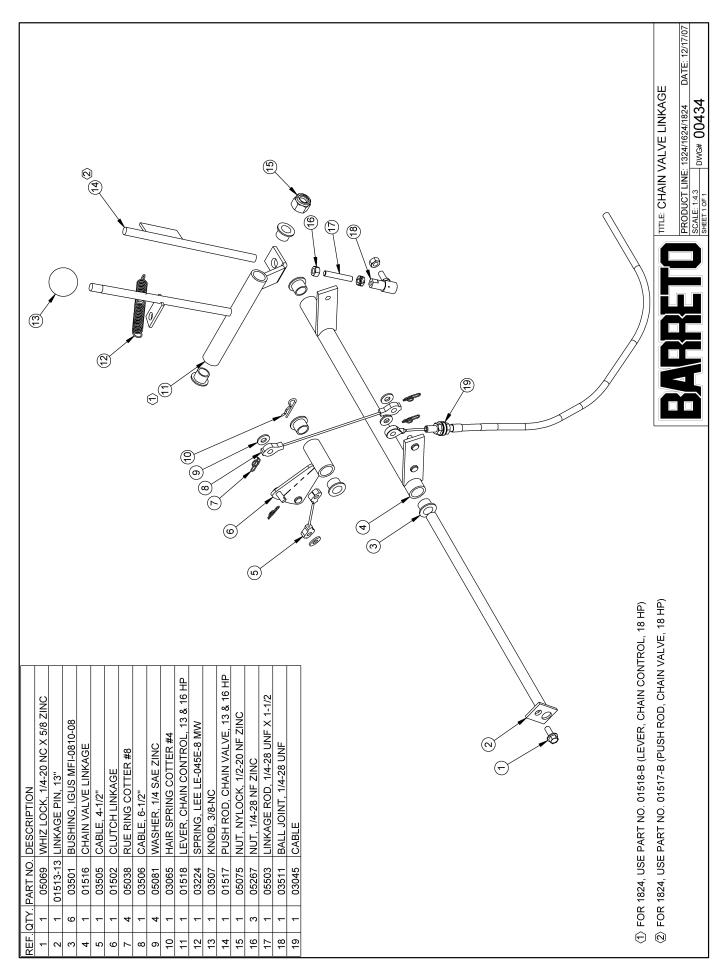
Page 24 of 64 6/4/08 1324/1624/1824 owners manual.doc



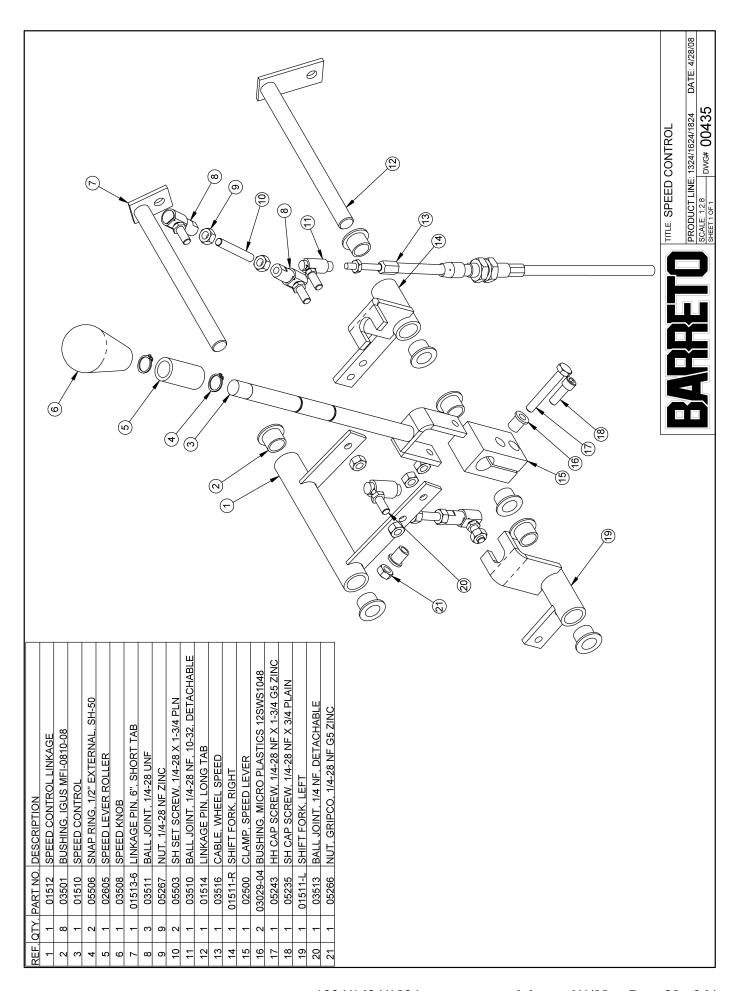


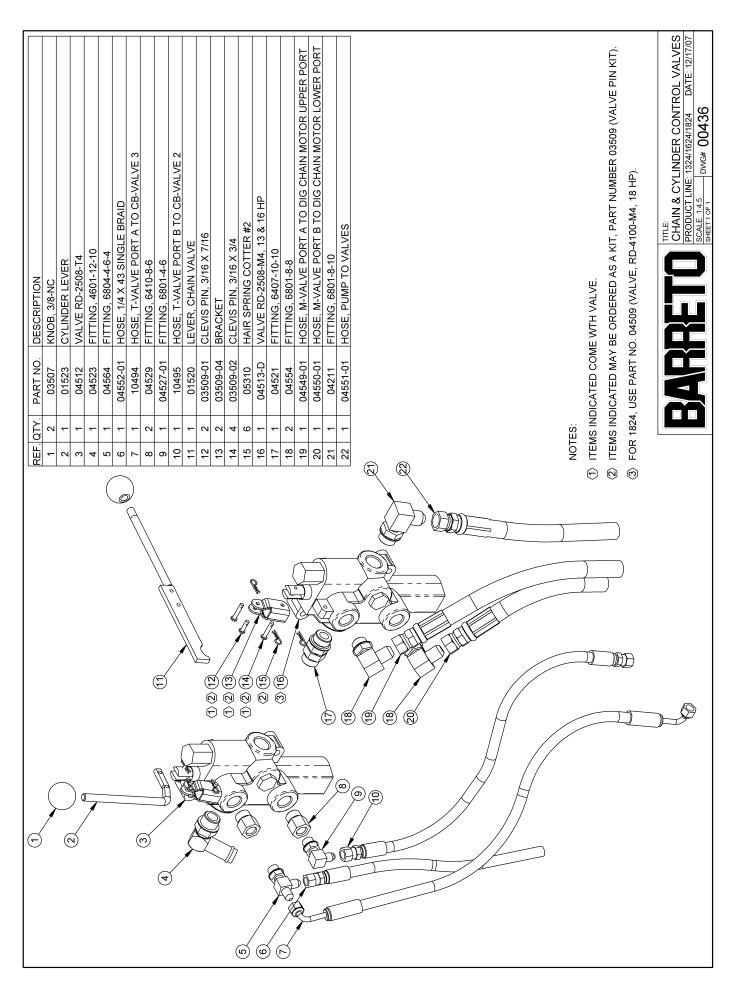
Page 26 of 64 6/4/08 1324/1624/1824 owners manual.doc

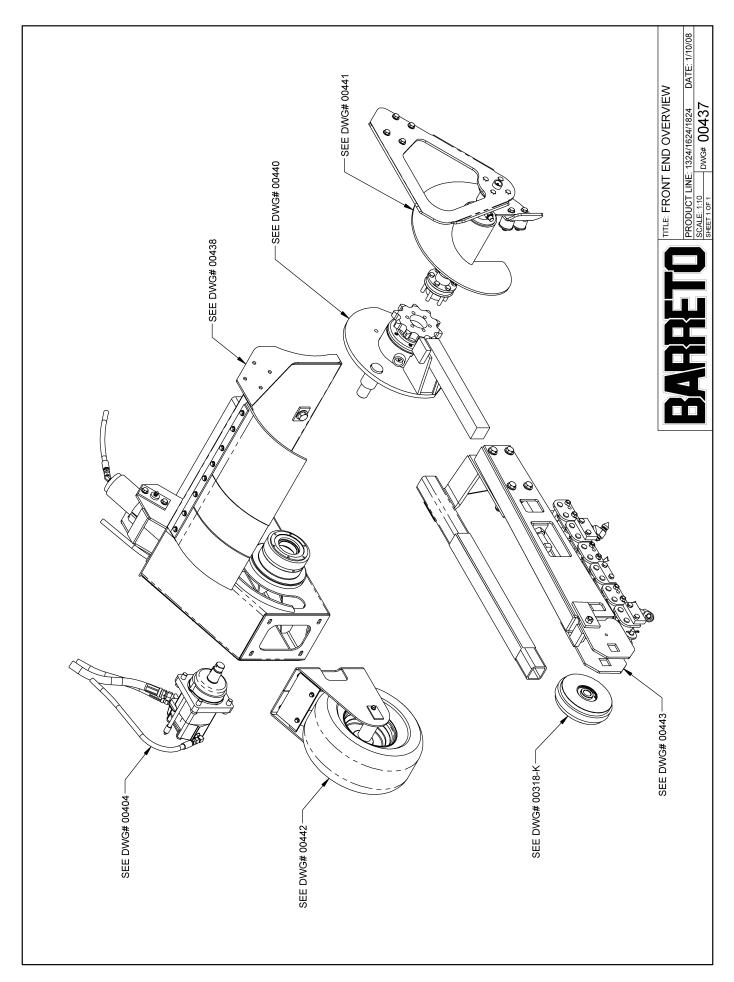


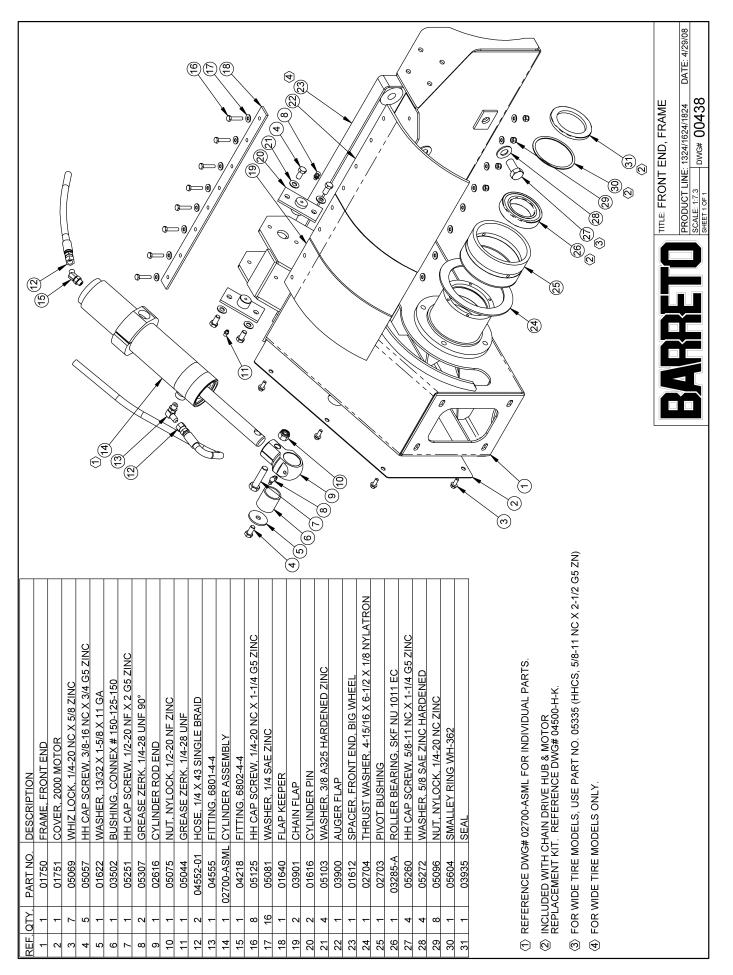


Page 28 of 64 6/4/08 1324/1624/1824 owners manual.doc

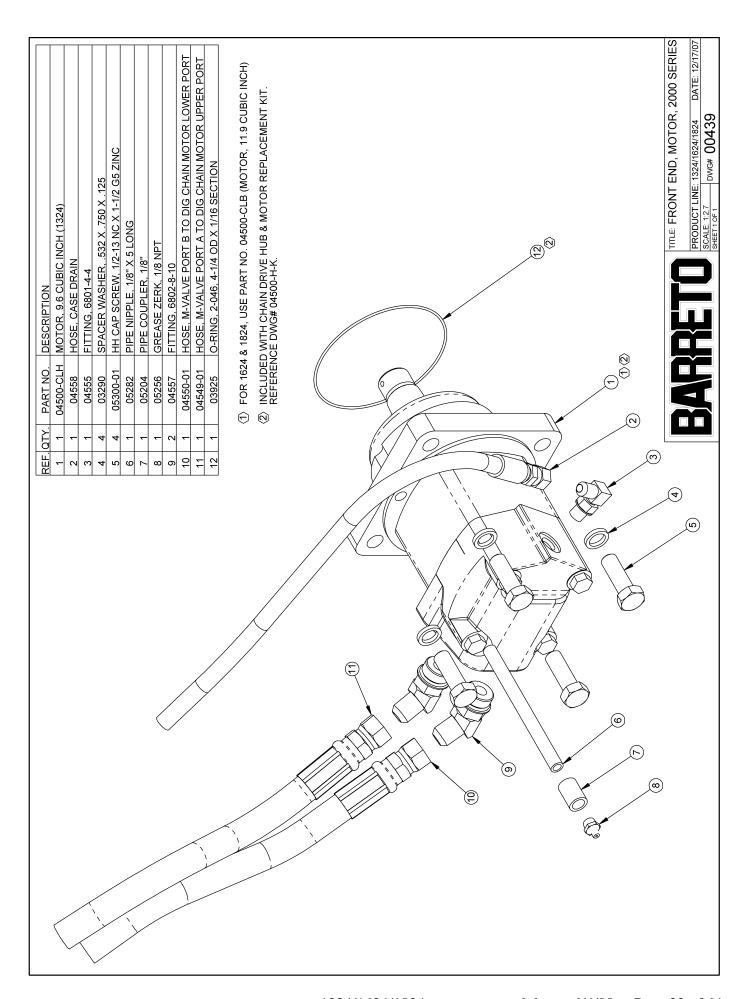


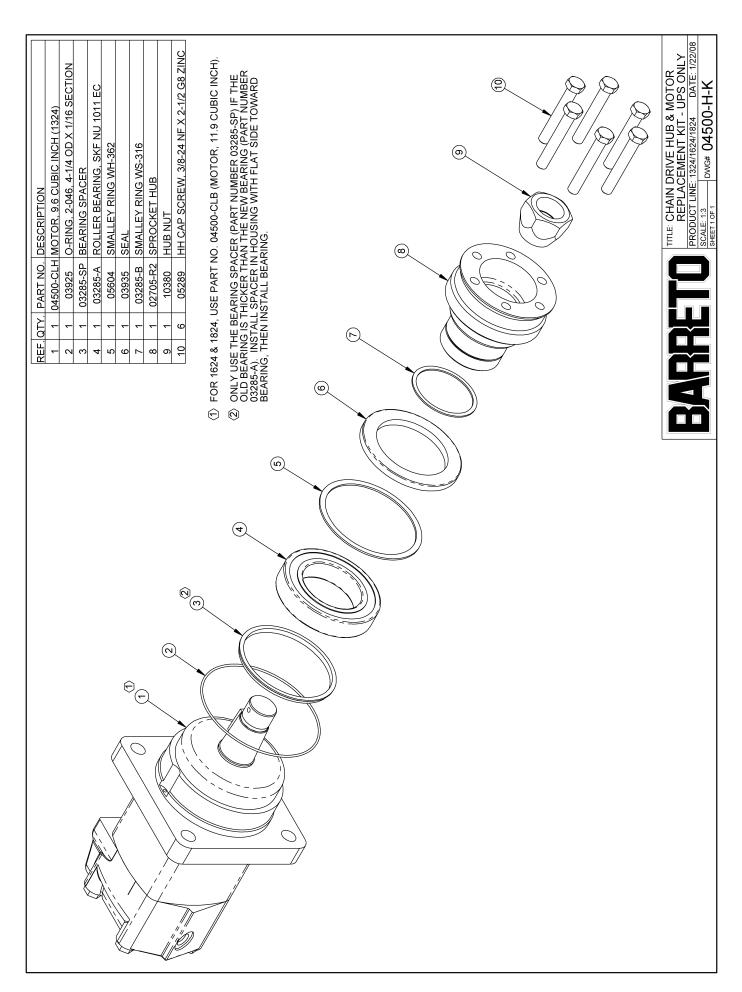




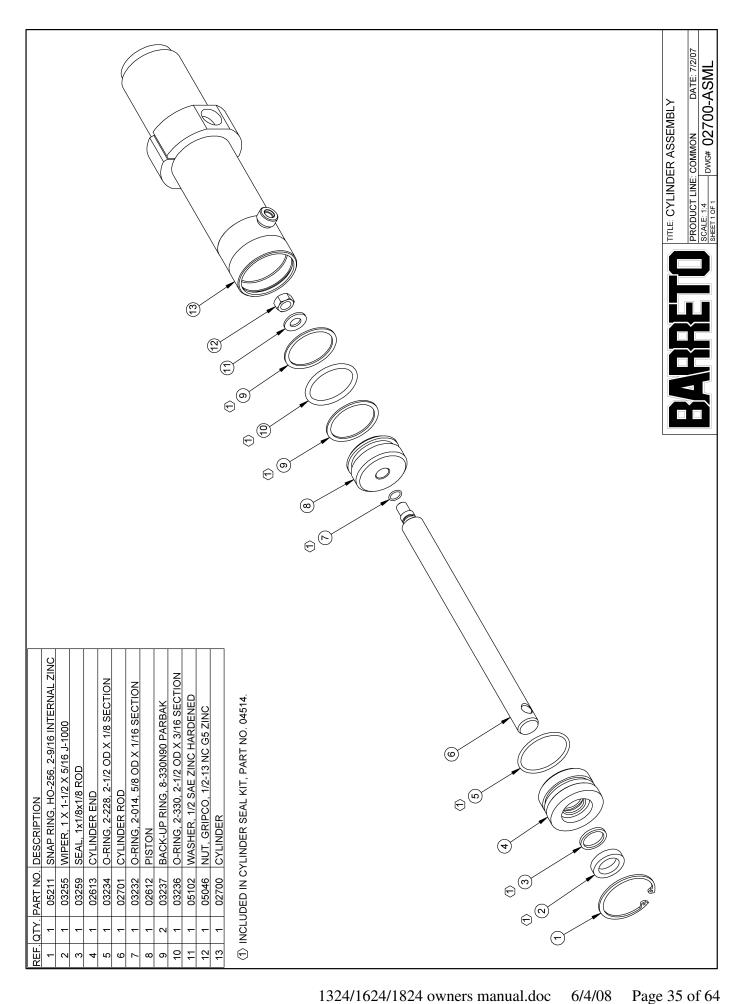


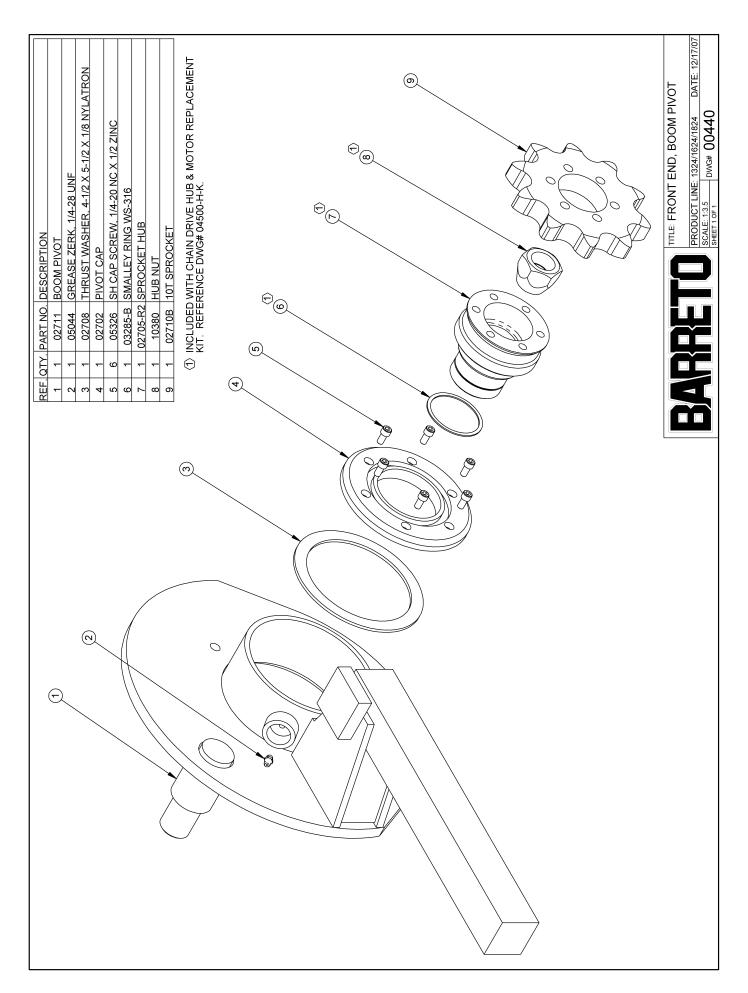
Page 32 of 64 6/4/08 1324/1624/18

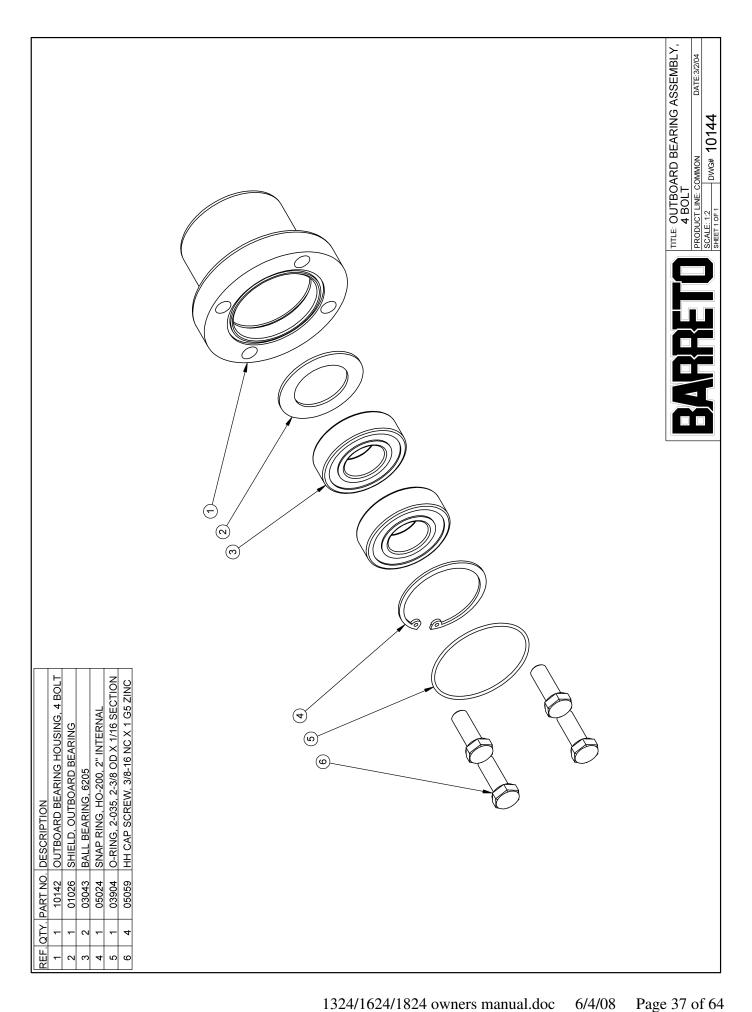


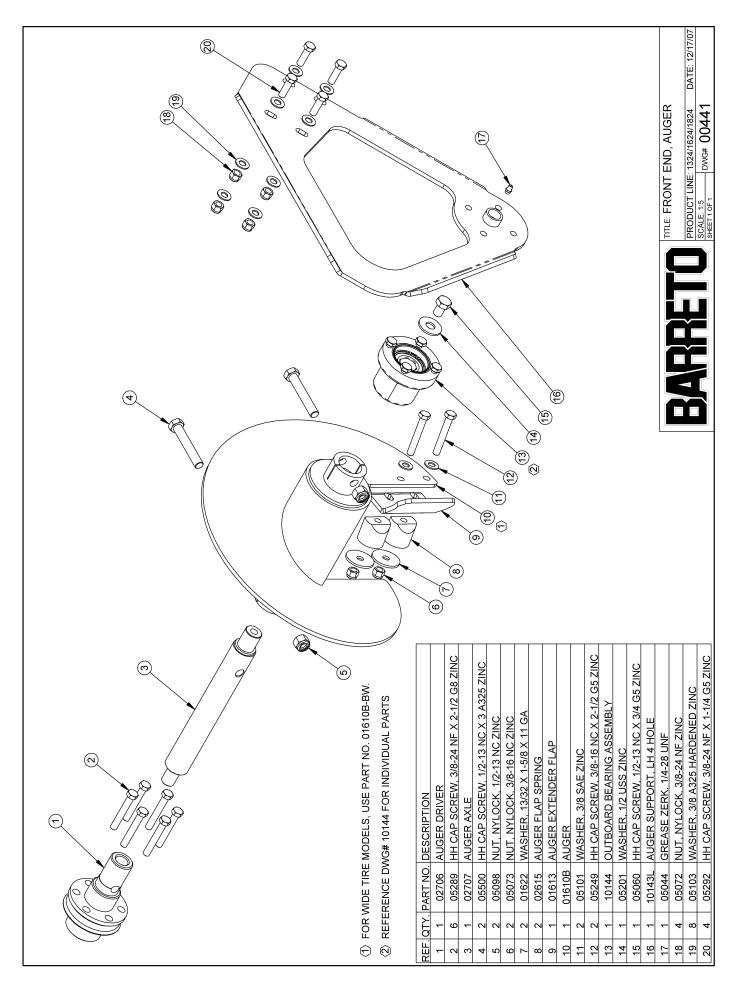


Page 34 of 64 6/4/08 1324/1624/1824 owners manual.doc

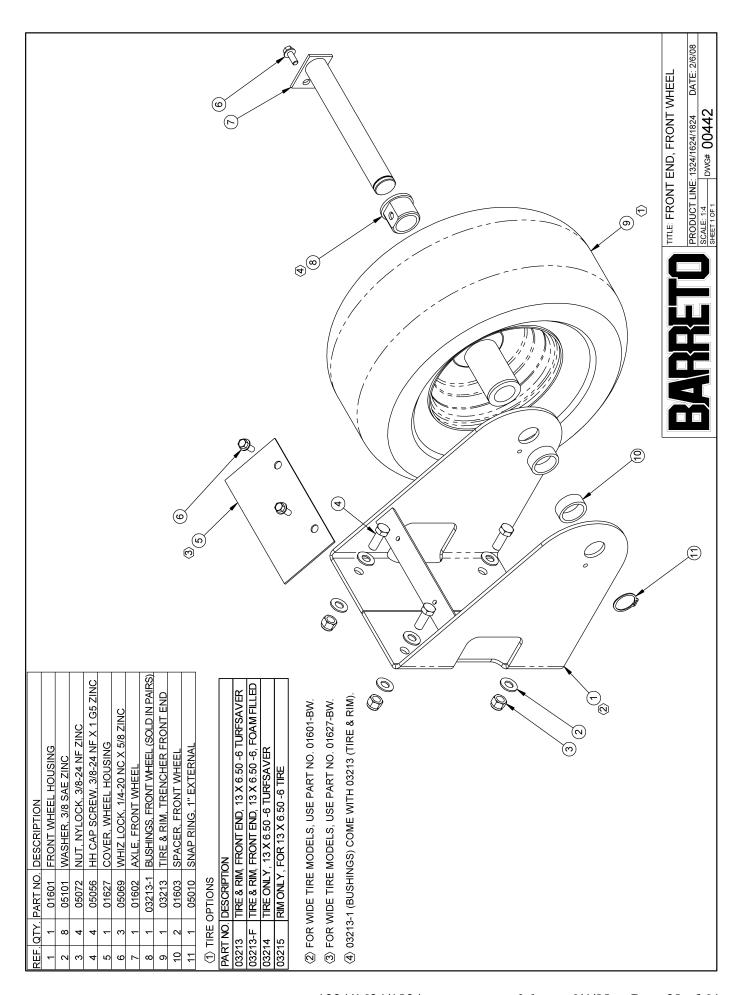


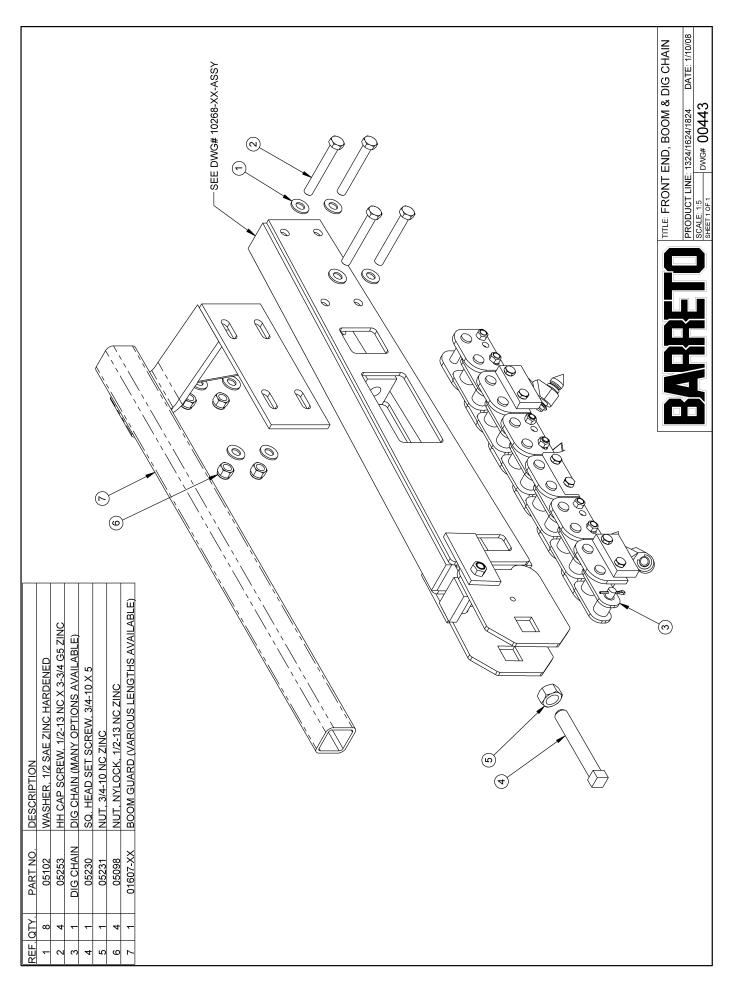




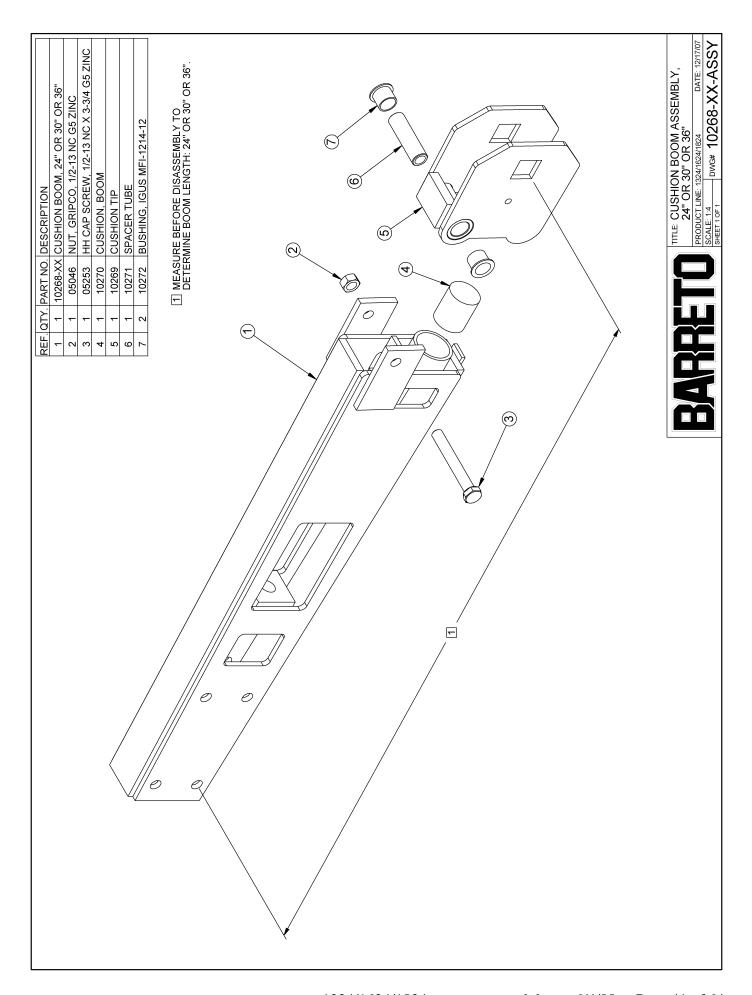


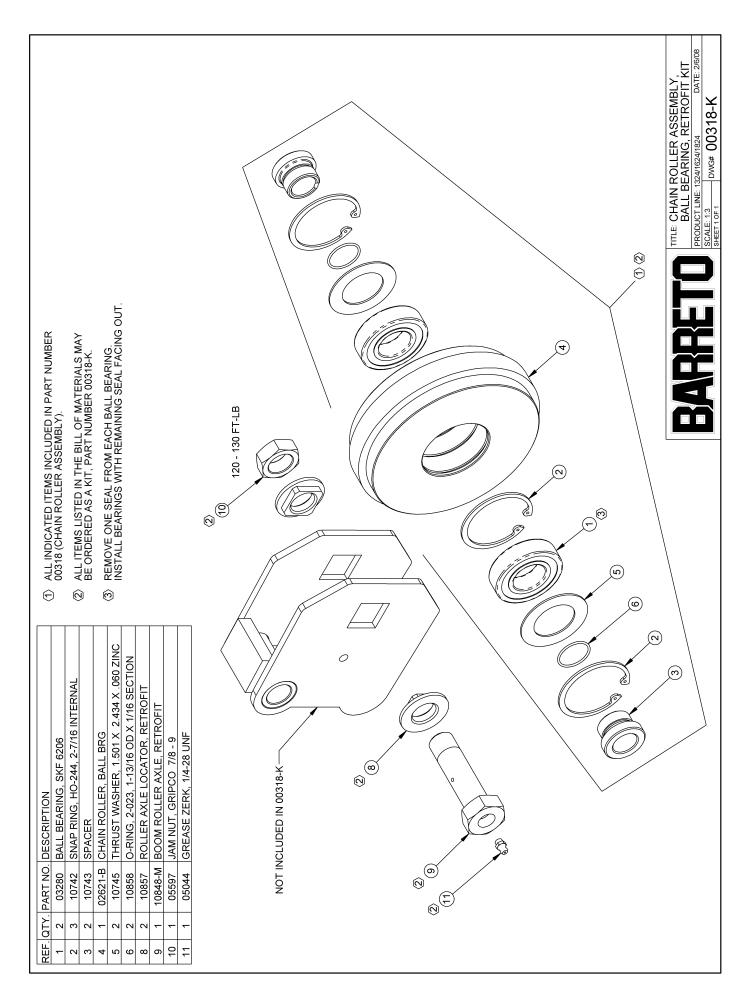
Page 38 of 64 6/4/08 1324/1624/1824 owners manual.doc

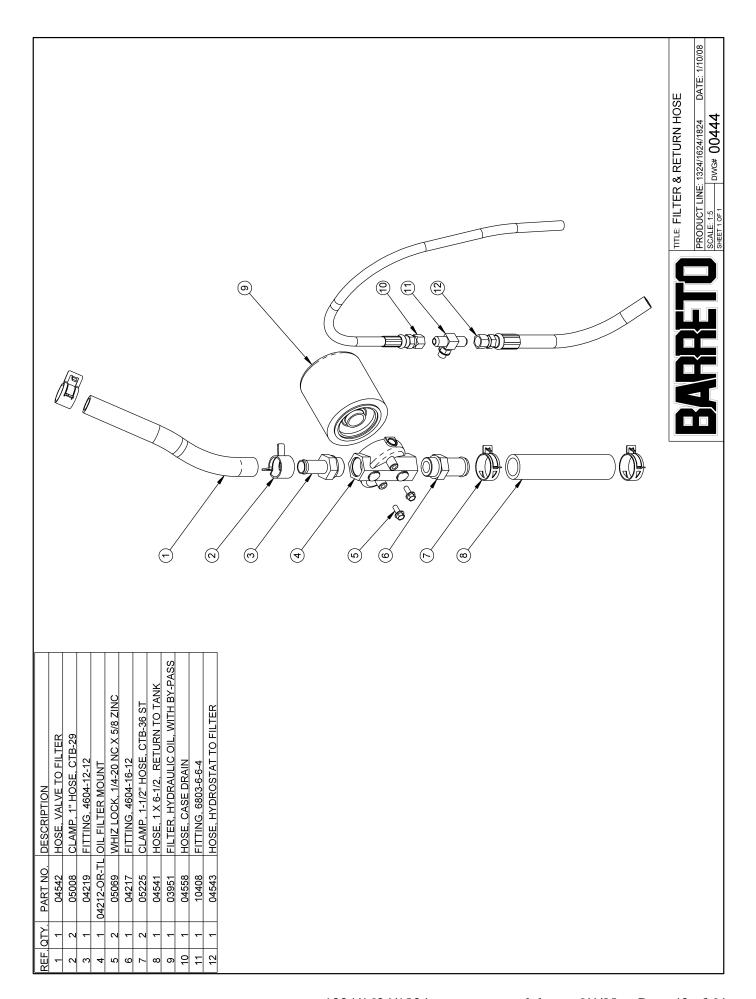


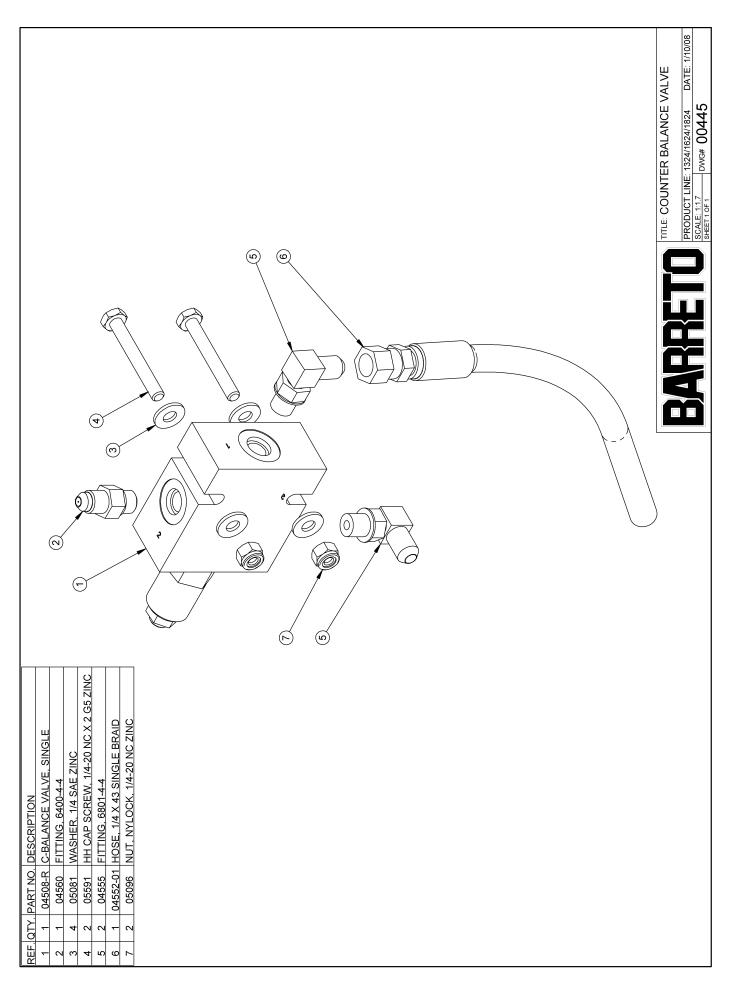


Page 40 of 64 6/4/08 1324/1624/1824 owners manual.doc

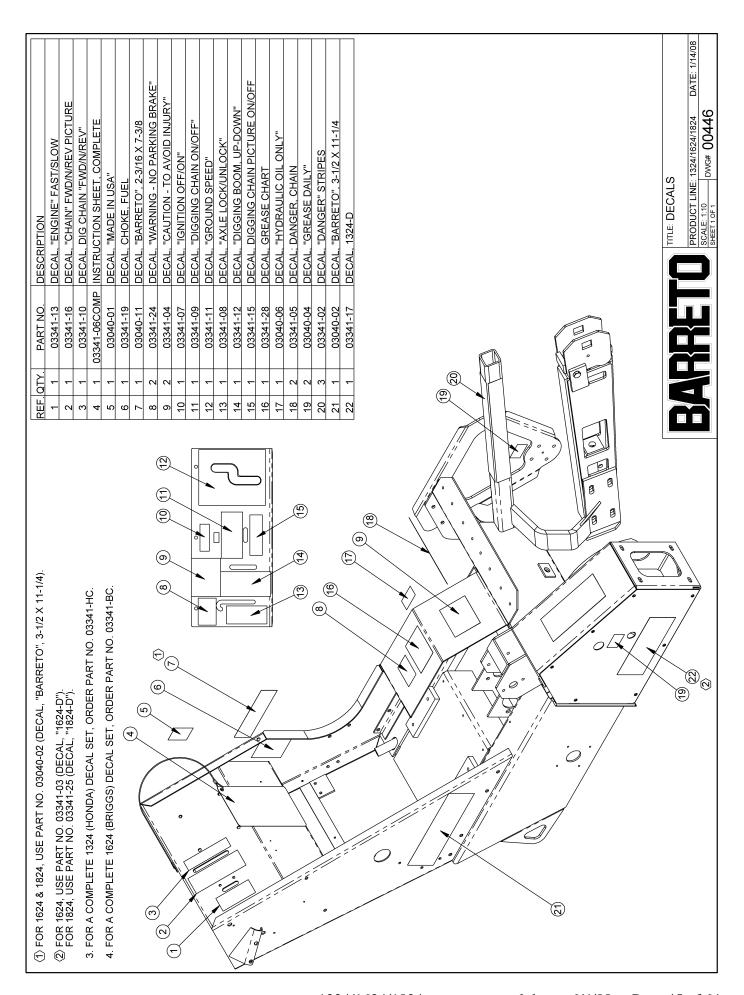


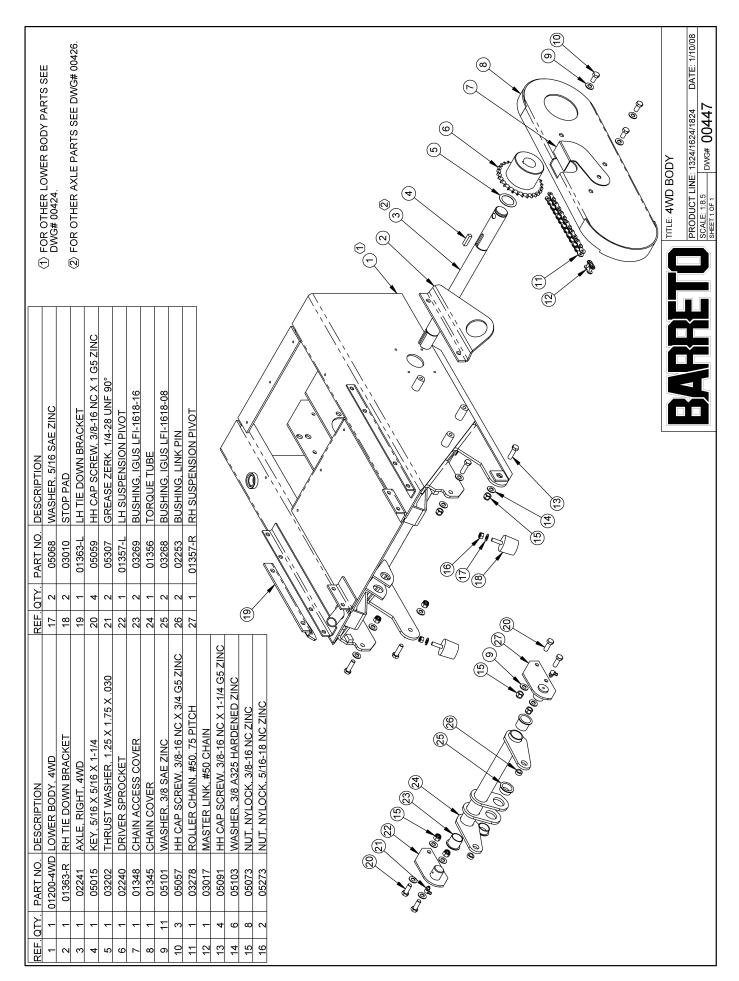


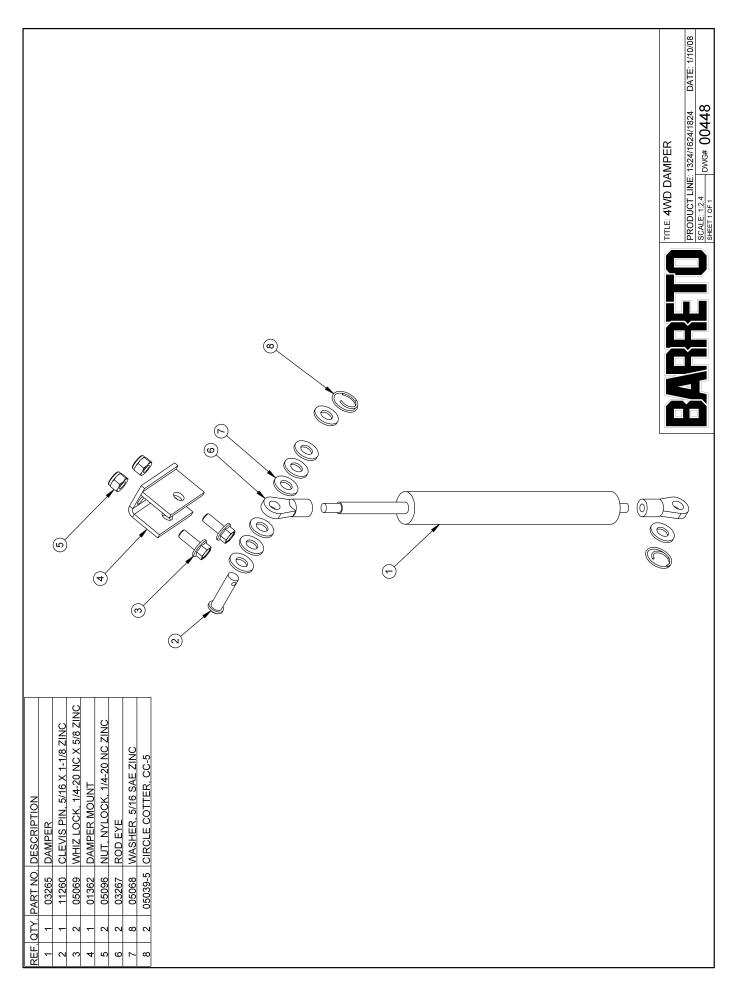


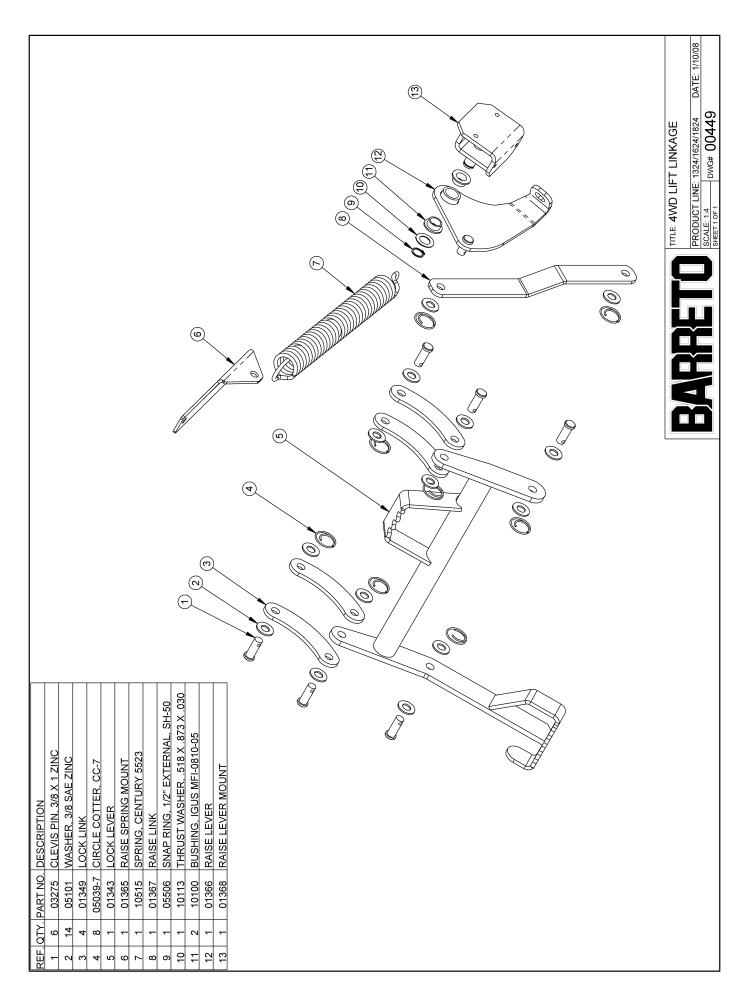


Page 44 of 64 6/4/08 1324/1624/1824 owners manual.doc

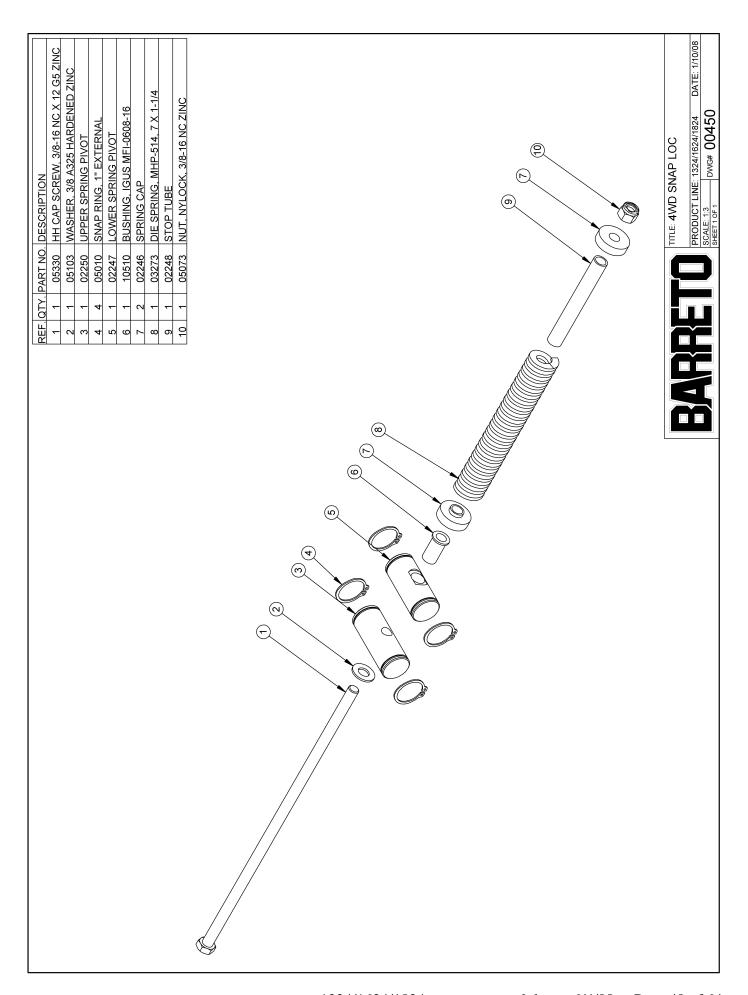


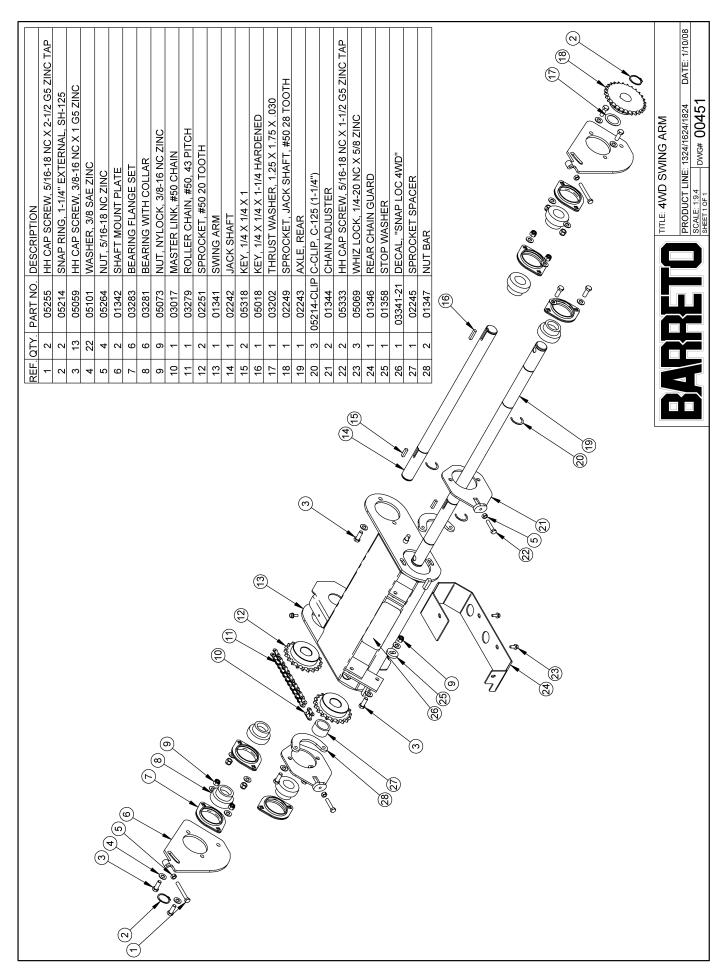




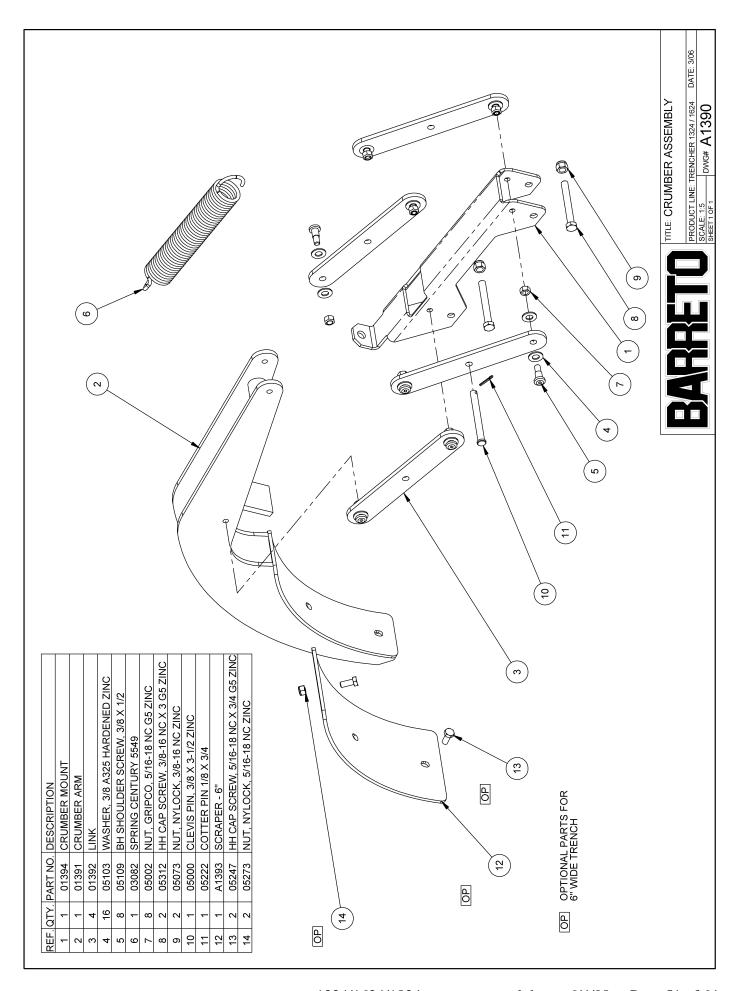


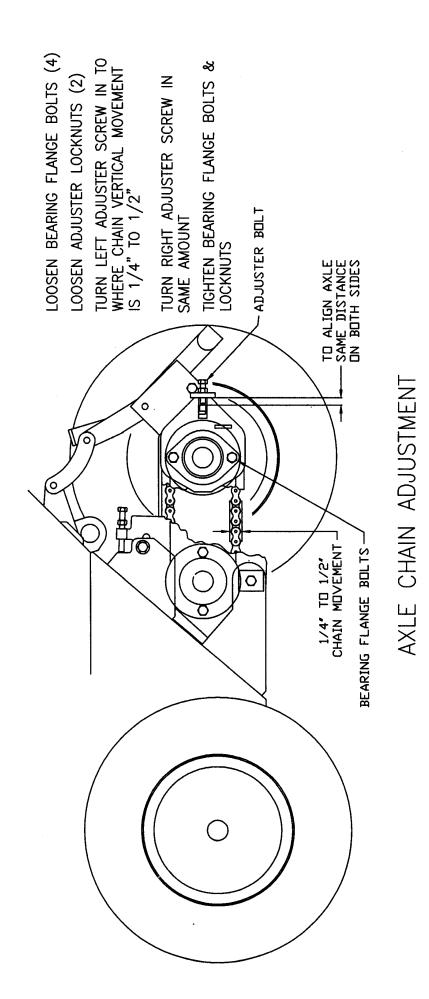
Page 48 of 64 6/4/08 1324/1624/1824 owners manual.doc



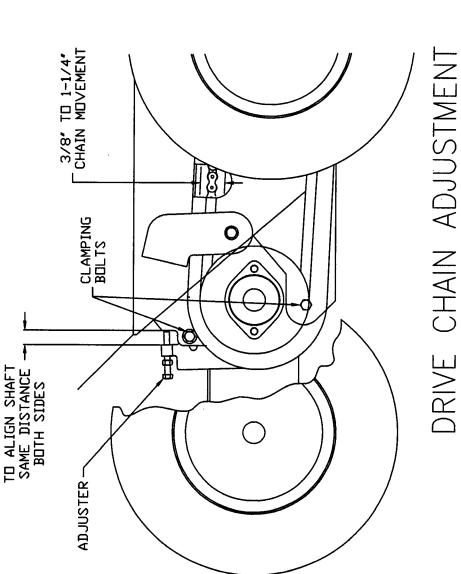


Page 50 of 64 6/4/08 1324/1624/1





Page 52 of 64 6/4/08 1324/1624/1824 owners manual.doc



LOOSEN ACCESS COVER BOLT & RAISE COVER

LOOSEN CLAMPING BOLTS (4)
FROM INSIDE OF SHAFT MOUNTS
LOOSEN RIGHT LOCKNUT & TURN
ADJUSTER TO GET 3/8" TO 1-1/4"
VERTICAL CHAIN MOVEMENT

TURN LEFT ADJUSTER IN SAME AMOUNT TO ALIGN SHAFT

TIGHTEN CLAMPING BOLTS & LOCKNUTS AND COVER BOLT



## BARRETO E4X6TBT TILT BED TRAILER

The Barreto Tilt Bed Trailer, Model Number E4X6TBT, has three receivers to attach any of the following options, **to be used one at a time**:

- 00287 WHEEL LOCK (to transport the Barreto Model 912 trencher)
- 00288 WHEEL LOCK (to transport a Barreto Model 1318 or 1324 or 1624 or 1824 trencher)
- 00289 TILLER BUMPER PURCHASE (to transport a Barreto Model 916 or 918 or 1320 or 1620 tiller)

Each of the above is designed to aid in holding a single piece of Barreto equipment in place while in transit.

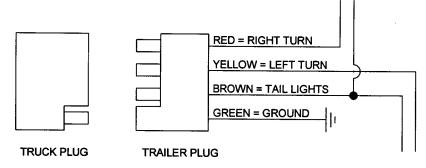
Although the trailer is versatile, Barreto Manufacturing, Inc. accepts no liability for injury or damage of any kind related to use of the Barreto Tilt Bed Trailer.

Be sure to read and observe the safety instructions for proper use of the Barreto Tilt Bed Trailer. If there are any questions regarding proper use, please contact Barreto Manufacturing, Inc. or an authorized Barreto Dealer.

The VIN is located on the upper bed frame, on the left side and near the front.

## WIRING THE TRAILER

Four pin connectors are typical for the three lighting functions (tail, turn, and brake) plus one pin for the ground wire. Vehicle manufacturers have not standardized wiring colors. We recommend that a circuit tester be used on the tow vehicle wiring to locate the correct wire for each function. The wire that supplies 12 volt DC when switched on with the head lights in the tow vehicle is for the tail lights.



## SAFETY INSTRUCTIONS / CHECK LIST BARRETO E4X6TBT TILT BED TRAILER

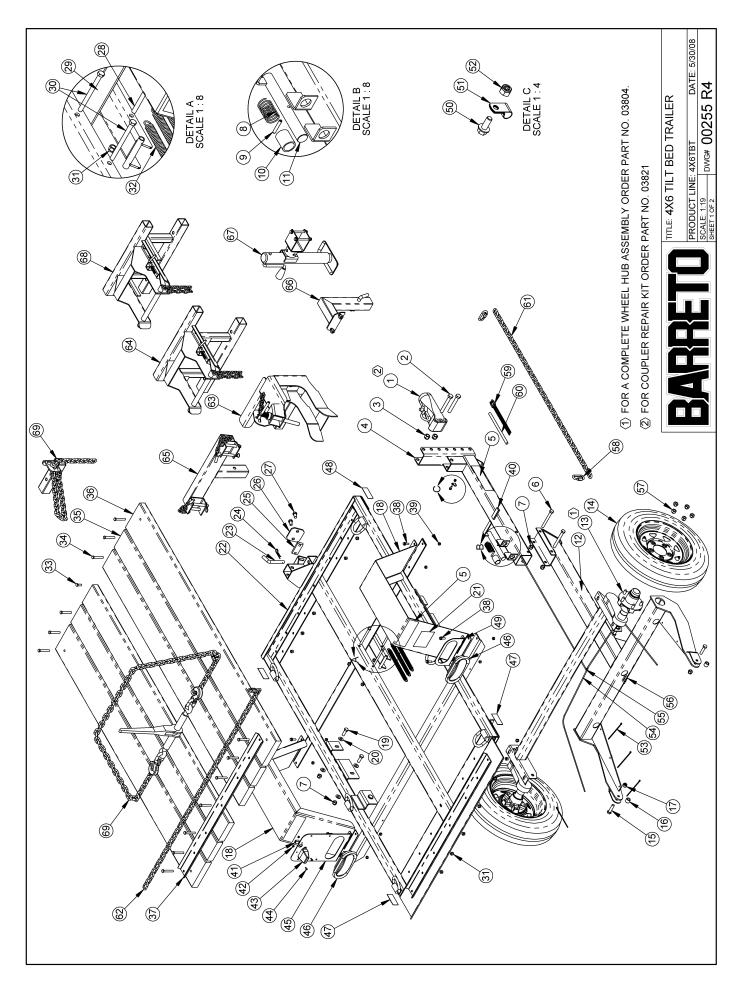
Be sure to obey all traffic laws and rules of the road while towing the Barreto Tilt Bed Trailer. Never exceed 45 miles per hour while towing the trailer. The towing vehicle should be in legal operating condition. If local law requires trailer lights, be sure they are in good repair and are in proper working condition.

Refer to the following check list before towing:

- Towing vehicle should have a 2" ball. Be sure it is in good repair and securely fastened to the vehicle.
- Securely fasten the hitch to the ball by tightening the hitch nut.
- Thread the safety chain through the loop in the hitch nut handle to prevent it from vibrating loose while towing.
- Attach the safety chain to the towing vehicle in such a way that it cannot come off accidentally.
- Check the hitch-to-ball connection after driving a few blocks and re-tighten if necessary.
- When using the 00287 WHEEL LOCK to transport the Barreto Model 912 trencher, insure that the spring-loaded pin is holding the trencher front wheel securely.
- When using the 00288 WHEEL LOCK to transport a Barreto Model 1318 or 1324 or 1624 or 1824 trencher insure that the wheel lock pin is in place behind the trencher front wheel. The wheel lock pin handle should be behind the lip on the side plate (near where the chain is fastened) and under the lock pin keeper.
- When using the 00289 TILLER BUMPER PURCHASE to transport a Barreto Model 916 or 918 or 1320 or 1620 tiller, both bumper lock pins must be placed behind the tiller bumper with a hair spring cotter through each pin. The two bolts that fasten the bumper lock pin chains prevent the Barreto tillers from shifting from side to side, and should be in good condition.
- Strap Barreto equipment to the trailer D-rings for highway, long distance, or rough road towing.

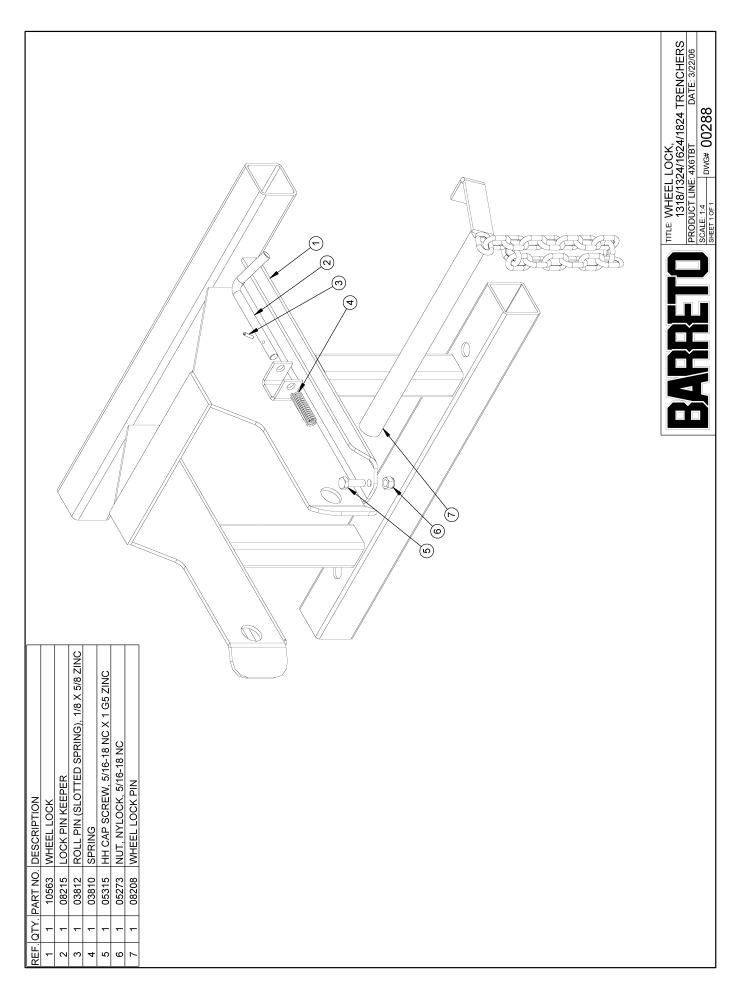
Always exercise extreme caution and allow extra clearance while towing a trailer.

## **DRIVE SAFELY!**

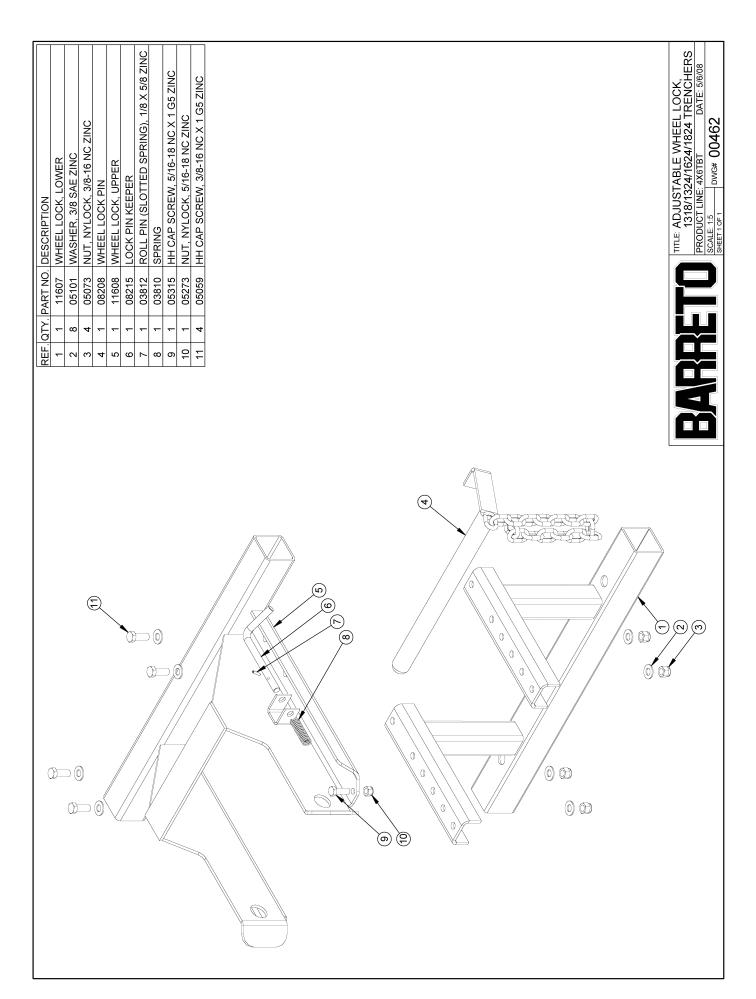


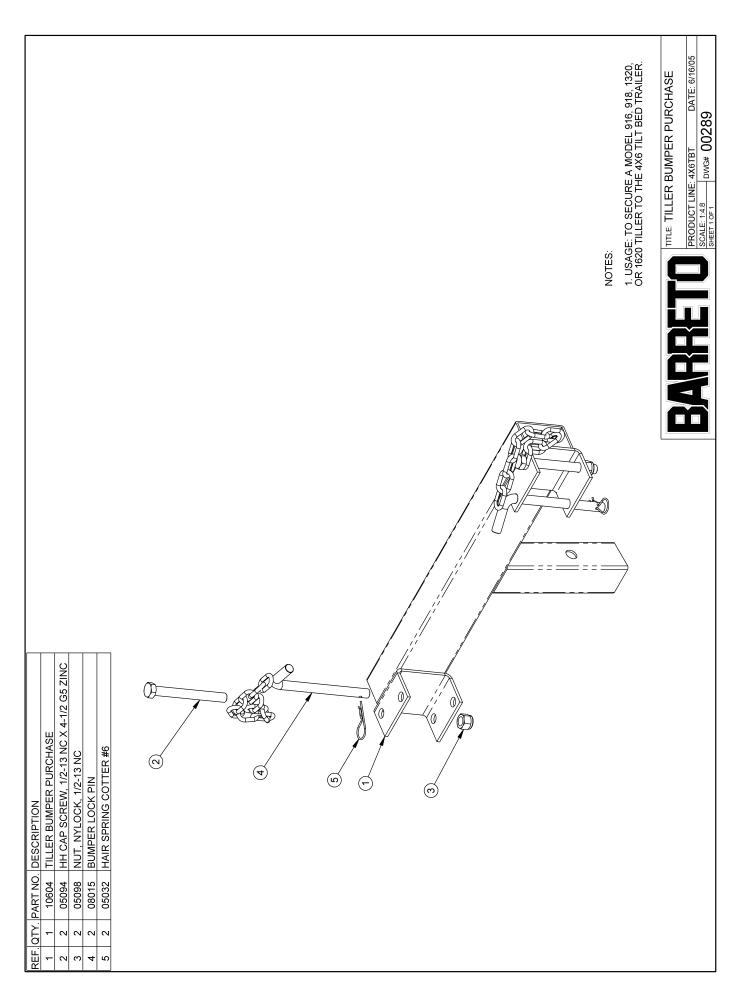
Page 56 of 64 6/4/08 1324/1624/1824 owners manual.doc

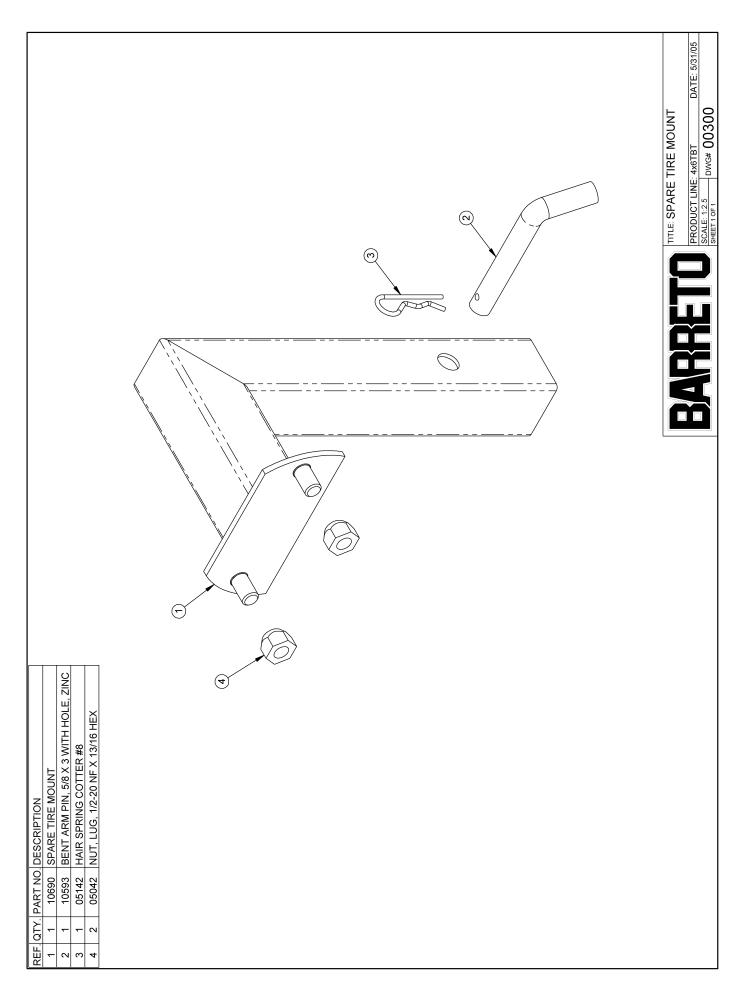
REF. O.	╧	ART NO.	QTY. PART NO. DESCRIPTION	REF. C	ZI FI	QTY. PART NO.	DESCRIPTION
	_	03820	COUPLER, CROFT ADJUSTABLE	47	2	10631	RED RELECTOR, 1-3/8 X 3-1/8
	2	05095	HH CAP SCREW, 5/8-11 NC X 4-1/2 G5 ZINC	48	2	10630	AMBER RELECTOR, 1-3/8 X 3-1/8
	2	05099	NUT, NYLOCK, 5/8-11 NC ZINC	49	_	10613	MOUNTING BRACKET, TAIL LIGHT
_	_	11337	TONGUE & LATCH MOUNT	20	_	02069	WHIZ LOCK, 1/4-20 NC X 5/8 ZINC
2	4	03040-11	DECAL, "BARRETO", 2-3/16 X 7-3/8	51	-	11238	CABLE CLAMP, RICHCO SPN-5
9	7	05094	HH CAP SCREW, 1/2-13 NC X 4-1/2 G5 ZINC	52	-	02036	NUT, NYLOCK, 1/4-20 NC ZINC
	9	05098	NUT, NYLOCK, 1/2-13 NC ZINC	53	10	03035	TIE WRAP, 1/8 X 6
+	_	10592		54	7	11358	WIRE CABLE, 4X 14 GA STRANDED, 4-1/2' LONG
4	_	05334	ROLL PIN (SLOTTED SPRING), 1/4 X 1-1/2 ZINC	25	_	11357	WIRE CABLE, 4X 14 GA STRANDED, 8' LONG
	_	10580	SPACER, LATCH PIN	26	4	05343	BUTT SPLICE
4	_	10579	LATCH PIN	22	10	05042	NUT, LUG, 1/2-20 NF
	_	10572	LOWER BED FRAME	28	7	03711	QUICK LINK, 5/16
13	_	03801	AXLE, INCLUDES WHEEL HUBS	29	_	03264	PLUG, FLAT 4 MALE
4	7	03814	TIRE & RIM, 5.30-12, 5 HOLE ON 4.5 BC	09	-	11606	HEAT SHRINK TUBE, 1/2 X 9
15	7	05251	HH CAP SCREW, 1/2-20 NF X 2 G5 ZINC	19	-	08301-1	SAFETY CHAIN, 5/16", 39 LINKS
16	2	10585	BUSHING	62	_	08300	TIE-DOWN CHAIN, 1/4", 40 LINKS, WITH QUICK LINK
17	7	05075	NUT, NYLOCK, 1/2-20 NF ZINC	63	_	00287	OPTIONAL WHEEL LOCK, 912
18	2	11013	FENDER	64	_	00288	OPTIONAL WHEEL LOCK, 1318/1324/1624/1824
19	4	05300-01	HH CAP SCREW, 1/2-13 NC X 1-1/2 G5 ZINC	65	_	00289	OPTIONAL BUMPER PURCHASE, TILLERS
20	ω	05102	WASHER, 1/2 SAE ZINC HARDENED	99	_	00800	OPTIONAL SPARE TIRE MOUNT
21	1	03040-14	DECAL, "45 MPH"	29	_	00339	OPTIONAL SWIVEL JACK & MOUNTNG BRACKET
22	_	11012	UPPER BED FRAME	89	_	00462	OPTIONAL ADJUSTABLE WHEEL LOCK, 1318/1324/1624/1824
23	_	10593	BENT ARM PIN, 5/8 X 3 WITH HOLE, ZINC	69	_	00340	OPTIONAL TIE-DOWN KIT, 1824TK
24	_	05142	HAIR SPRING COTTER #8				
25	_	10625	STRIKER MOUNTING PLATE				
	_	10624	STRIKER PLATE				
	7	05067	HH CAP SCREW, 1/2-13 NC X 1 G5 ZINC				
	_	10598	HH CAP SCREW, 3/8-16 NC X 3-1/4 G5 ZINC				
29	_	11014	LIFT ROLLER				
	2	10599	HH CAP SCREW, 3/8-16 NC X 4-1/2 G5 ZINC				
31	17	05073	NUT, NYLOCK, 3/8-16 NC ZINC				
32	3	03220	SPRING				
33	_	05059	HH CAP SCREW, 3/8-16 NC X 1 G5 ZINC				
34	13	05249	HH CAP SCREW, 3/8-16 NC X 2-1/2 G5 ZINC				
35	4	10595	WOOD DECKING, 2 X 6 X 71-5/8				
36	2	10597	WOOD DECKING, 2 X 8 X 71-5/8				
		10573-15					
		05144	WHIZ-LOCK 5/16-18 NC X 1 ZINC				
	0 00	05273	NUT. NYLOCK, 5/16-18 NC ZINC				
	-	03018	GRIP 1/8 X 3/4 X 2-3/4				
	<sub>0</sub>	03806	QUICK-SPLICE				
	2	05345	NUT. NYLOCK. 10-24 NC ZINC				
	_	10628	LICENSE PLATE LIGHT				
44	2	05233	SCREW #10-24 X 1/2 PPH				TITLE: 4X6 IILI BED IKAILEK
45	_	10609	MOUNTING BRACKET, TAIL LIGHT & LICENSE				A RODUCT LINE: 4X6TBT

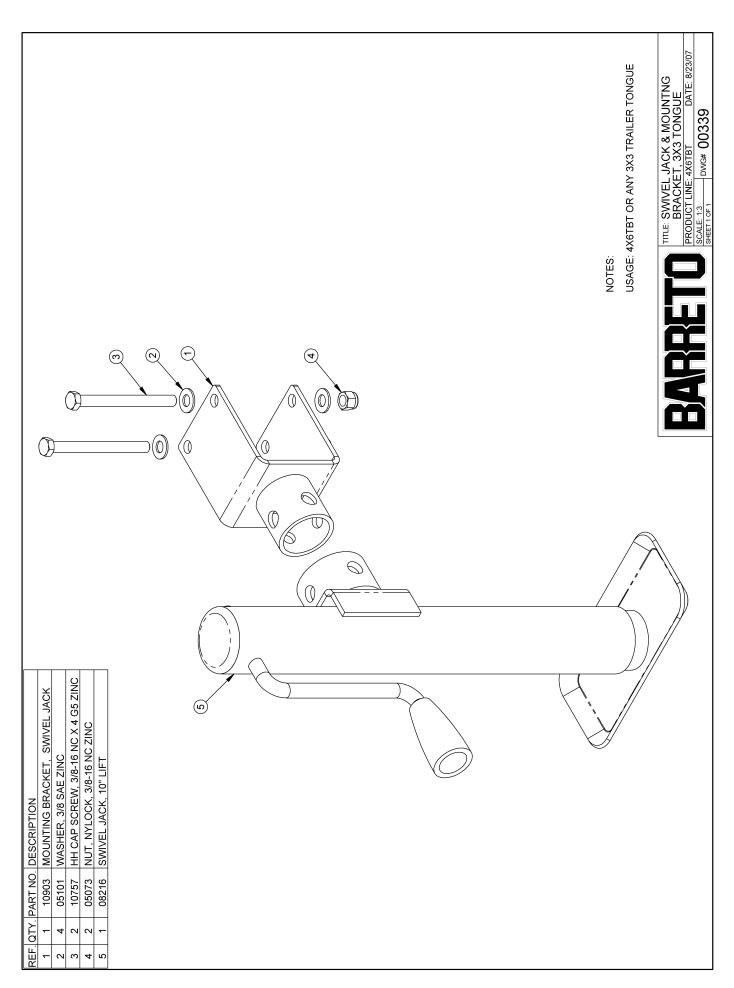


Page 58 of 64 6/4/08 1324/1624/1824 owners manual.doc

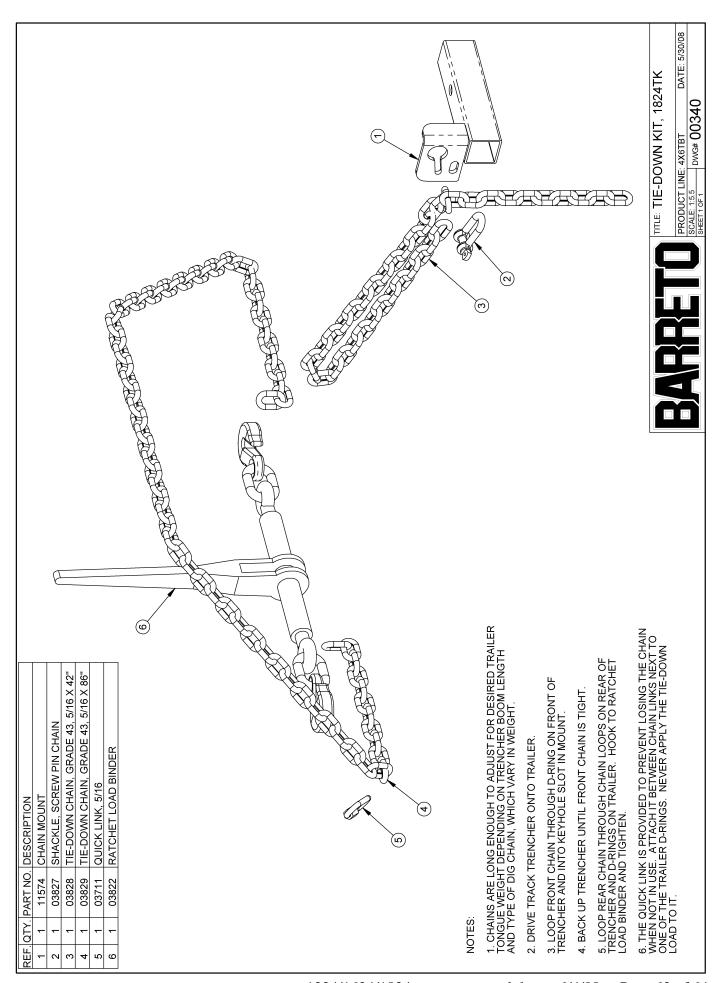


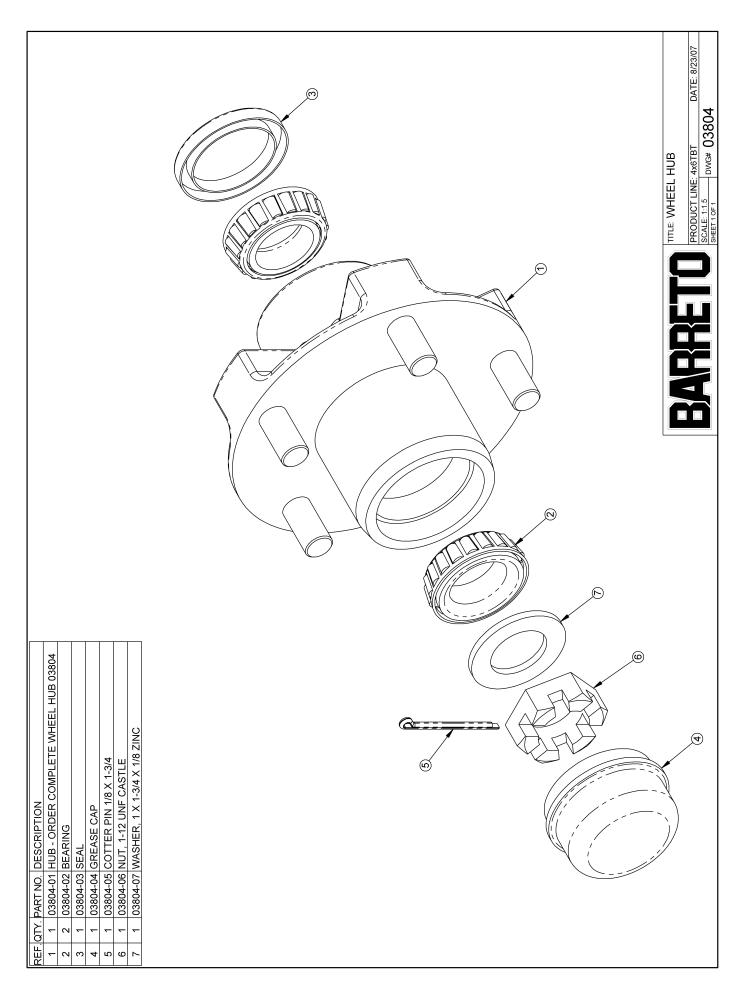






Page 62 of 64 6/4/08 1324/1624/1824 owners manual.doc





Page 64 of 64 6/4/08 1324/1624/1824 owners manual.doc