BOSS HOSS CYCLES, Inc.

OWNER'S MANUAL

This owner's manual contains important safety, operational, and warranty information. Please read it carefully.

BOSS IIOSS MOTORCYCLES AND TRIKES ARE TO BE OPERATED ONLY BY MATURE, EXPERIENCED MOTORCYCLE RIDERS TIIAT IIAVE BEEN PROPERLY TRAINED IN TIIE VEIIICALS OPERATIONS.

Model Year 2005
9-2004

WARNINGS AND CAUTIONS

Statements in this manual preceded by the words **WARNING** or **CAUTION** are very important.

WARNING

Means there is the possibility of personal injury to you or others.

CAUTION

Means there is the possibility of damage to the vehicle.

WARNING

READ OWNER'S MANUAL AND CLEARLY UNDERSTAND ALL OPERATING INSTRUCTIONS BEFORE OPERATING VEHICLE.

WARNING

Proper service and repair is important for the safe reliable operation of all mechanical products. The service procedures recommended and described in this manual are effective methods for performing service operations.

It is important to note that some warnings are stated in this Owner's Manual. However, please remember that these warnings are not all inclusive, since **Boss Hoss** cannot possibly know or advise of all possible ways assembly or service might be done or of the possible consequences of each method. Accordingly, anyone who uses a service or installation not recommended by **Boss Hoss** must thoroughly satisfy himself that neither his nor the operator's safety will be jeopardized by the service methods used.

Safe Operating Rules

Before operating your new Boss Hoss bike or trike <u>be sure to read and follow the owner's manual</u>. The owner's manual includes maintenance schedules, safety tips, and describes many of the parts that make up the bike or trike.

- Be sure to read and follow the MOTORCYCLE HANDBOOK for the state or states that you will be traveling in.
- Let only Boss Hoss Cycles, Inc. authorized dealers or service centers work on your bike or trike and use only Boss Hoss Cycles, Inc. parts and accessories, not doing this will void your warranty.
- Do not inhale exhaust gases. Exhaust gases are poisonous so never run engine in a confined area.
- Follow maintenance schedule to make sure your bike or trike remains in safe condition to ride.
- You should operate your bike or trike at moderate speeds and out of traffic until you have become familiar with all controls and you are comfortable riding.
- When riding remember to be a defensive driver do not depend on the other drivers on the road to see you. Most accidents involving motorcycles are caused when the driver of another vehicle fails to see the motorcyclist. Operating at all times with your headlamp on will help other drivers see you.
- Dress appropriately when riding. Wear an approved helmet and gear when operating your bike or trike; this will help you to stay safe and comfortable.
- Do not under any circumstances let anyone operate your bike or trike unless you are certain that they are experienced, licensed riders and understand the controls of your bike or trike.
- Do not operate your bike or trike if you are fatigued, under the influence of drugs or alcohol, or if you are not confident with road conditions. Operating your bike or trike under any of the conditions listed puts you, your passenger, and anyone else on the road at greater risk.
- Be sure not to over load your bike or trike. Follow all weight guidelines listed in the manual.
- Do not use your bike or trike to tow a trailer or any other vehicle.
- Keep all hazardous substances such as brake and battery fluids away from eyes, skin, and out of mouth.
- Consult your dealer regarding any question you may have about your bike or trike. Should you have any kind of failure or problem with the operation of your bike or trike DO NOT CONTINUE TO RIDE contact your dealer IMMEDIATELY. The continued operation of a bike or trike that is not performing properly will probably aggravate an initial problem, cause repairs to be more costly, and may endanger the safety of the rider.

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SECTION ONE:

Product

GENERAL

The **Boss Hoss** is an American –made custom fabricated, two-wheeled motorcycle powered by a General Motors V-8 engine. The specially designed frame and drive system combined with a low center of gravity and balanced weight distribution results in a stable, smooth motorcycle. **Boss Hoss** also produces a 3-wheel trike with the same specially designed frame.

SAFETY and SERVICE

SAFE OPERATING MAINTENANCE

Good maintenance means a safe machine. A careful check of certain equipment must be made after periods of storage and frequently between the regular service intervals to determine if additional maintenance is necessary.

The following items should be checked as a routine pre-ride procedure:

1. Tires for correct pressure, abrasions, or cuts.
2. Belt for proper tension and adjustment.
3. Brakes, steering and throttle for responsiveness.
4. Brake fluid level and condition. Hydraulic lines and fittings for leaks. Also, check brake pads ands discs for wear.
5. Cables for fraying or crimping and free operation.
6. Engine oil and transmission fluid level.
7. Wheel nut tightness.

WARNING: Re-torque wheel nuts after first 25 miles and at 100-mile intervals until torque is maintained at 80 ft.-lbs.

8. Headlight, taillight and directional light operation.

SERVICING A NEW MOTORCYCLE

WARNING

Failure by the owner to have the service and maintenance procedures performed on each of the mileage intervals prescribed in this manual may adversely affect the motorcycle operation and performance, causing injury to the operator and/or passenger.

THE PRESCRIBED SERVICE AND MAINTENANCE PROCEDURES OUTLINED IN THIS MANUAL ARE THE OWNER'S RESPONSIBILITY TO HAVE PERFORMED. FAILURE TO PERFORM ALL OF THE SPECIFIED MAINTENANCE SERVICES WILL VOID THE BOSS HOSS LIMITED 12-MONTH WARRANTY.

WARNING

- **Carefully read all the appropriate sections of this manual before performing any work on your motorcycle. Improper repair and /or maintenance may result in personal injury.**
- **Adjustment and alignment of many serviceable components is critical. Improperly adjusting and/or aligning components will adversely affect motorcycle handling and stability, possibly leading to personal injury. We recommend that an authorized Boss Hoss dealer perform all adjustments and alignments to your motorcycle.**

After a new motorcycle has been driven its first 500 miles and again at 2500 miles, the following initial service operations must be performed.

CHECK AT FIRST 500 MILES and 2500 MILES:

1. Drain engine oil pan through drain plug and refill with fresh oil.
2. Replace engine oil filter.
3. Change transmission fluid and clean transmission filter.
4. Check and adjust belt drive.
5. Check battery for any signs of damage.
6. Check rear brake pedal adjustment.
7. Inspect brake fluid level and condition.
8. Check brake lines and fittings for leaks.
9. Inspect brake pad linings and brake discs for wear.
10. Check fuel valves, lines, and fittings for leaks.
11. Grease or oil all points indicated for 2500 miles attention in the "REGULAR MAINTENANCE INTERVAL CHART"
12. Check front fork (steering head) bearing adjustment.
13. Check tightness of rear swing arm pivot bolts
14. Check tightness of all fasteners.
15. Check tire pressure and inspect tread.
16. Check engine idle speed adjustment.
17. Check throttle adjustment.
18. Check operation of all electrical equipment and switches.
19. Check and adjust alternator belt.
20. Road test.

SERVICE NOTES

Description	Application	BH Part #	Industry Part #
Engine Oil	SB & BB	2280000	20W-50 Castrol
Oil Filter	SB & BB	2280300	PF-454 AC Delco
Transmission Oil	Bike	3370001	MX4T Mobil 1 Synthetic
Transmission Filter	Bike	3370162	N/A (Clean & Reuse Filter)

Chart 1.1

Description	Application	BH Part #	Industry Part #
Transmission Oil	Trike	3670000	Dexron 3 / Mercon
Transmission Filter	Trike	3620160	1-9702 Napa
Brake Fluid	All	1580000	DOT 5 Silicone
Antifreeze/Coolant	All	4460000	Dex-Cool or equivalent
Spark Plugs	SB	2320200	FR5LS AC Delco (gap 0.045")
Spark Plugs	BB	2320401	R45XLS AC Delco (gap 0.045")
Fork Oil	All	1280000	10W
Air Filter*	SB & BB	2620201	735-4906 Napa

*You must remove the 2 rear bolts (closest to the rider seat) of fuel tank to service the air filter.

Chart 1 continued

CAUTION

Raising the rear section of the fuel tank will decrease the clearance between the front of the tank and the handle bar assembly. Be careful not to damage the paint by impacting the fuel tank to the handle bar assembly.

REGULAR SERVICE INTERVALS

The following chart outlines recommended Maintenance and Lubrication intervals after performance of service on a new motorcycle and the initial break-in period. Refer to the following charts to plan a service schedule.

REGULAR SERVICE INTERVAL CHART

Service to be performed	First 300 miles	First 500 miles	Every 2500 miles	Every 5000 miles	Every 7500 miles	Every 10000 miles	Every spring or fall
Change engine oil		X	X				X
Check condition of spark plugs & replace if necessary							X
Replace oil filter		X	X				X
Inspect air cleaner & service as required	X	X	X	X	X	X	X
Replace spark plugs	Every 15,000 miles						
Check & adjust belts	X	X	X	X	X	X	
Check rear brake pedal adjustment	X	X	X	X	X	X	
Inspect brake fluid level & condition	X	X	X	X	X	X	
Check brake pad lining & discs for wear	X	X	X	X	X	X	
Check antifreeze level & protection strength							X (1gal. coolant)
Clean transmission filter & change transmission oil		X (bike only)		X (bike only)			
Replace Magnetic Inline Transmission Filter (Bikes Only)	Replace at initial 5,000 miles, then every 20,000 miles						
Check fuel valve, lines & fittings for leaks	X	X	X	X	X	X	
Check oil lines and brake system for leaks	X	X	X	X	X	X	
Lubricate the front brake hand lever	X	X	X	X	X	X	

Chart 1.2

REGULAR SERVICE INTERVAL CHART (CONTINUED)

Service to be performed	Every 300 miles	First 500 miles	Every 2500 miles	Every 5000 miles	Every 7500 miles	Every 10,000 miles	Every Fall or Spring
Lubricate the throttle cable	X	X	X				X
Check tightness of all fasteners	X	X	X	X	X	X	
Check tire pressure & inspect tread		X	X	X	X	X	
Check engine speed adjustment		X	X	X	X	X	
Check operation of throttle controls	X	X	X	X	X	X	X
Check operation of all electrical equipment & switches		X	X	X	X	X	
Check auto. Transmission fluid	X	(Fluid needs to be hot when checked- engine off & in upright level position)					
Check battery and clean/check connections				X		X	
Check rear shock rubber bushing adjustment				X		X	
Check front fork bearing adjustment		X		X		X	
Check front and rear sealed wheel bearings.				X			
Check front and rear sealed wheel bearings	Every 20,000 miles replace if necessary						
Change front fork oil						X	
Road test	X	X	X	X	X	X	X
Date completed							

Chart 1.2 continued

ADDITIONAL SERVICE INTERVAL CHART for TRIKES

Service to be performed	Every 300 miles	First 500 miles	Every 2500 miles	Every 5000 miles	Every 7500 miles	Every 10,000 miles	Every Fall or Spring
Lubricate drive u-joint, transmission shifter linkage, and all other rear suspension components			X				X
Check rear axle lubricant level			X				
Check tightness of all rear suspension fasteners			X				X
Change rear axle lubricant						X	
Check transmission fluid level			X				X
Change transmission fluid and filter						X	
Adjust rear drum brakes			X				X
Date completed							

WARNING **Chart 1.3**

VEHICLES RIDDEN UNDER ADVERSE CONDITIONS (HEAVY LOADS, CORROSIVE ENVIRONMENTS, EXTREME TEMPERATURES, ETC.) MAY REQUIRE A MORE FREQUENT MAINTENANCE SCHEDULE.

Checking Engine Oil

The dipstick is located on the right side of the motor for both the BB and SB. The dipstick for the BB is above the center of the exhaust shield as seen in figure below. The dipstick for the SB is above the back of the exhaust shield as seen in the figure below.

Figure 1.1 Big Block 502 dipstick location.

Figure 1.2 Small Block 350 dipstick location.

Changing Engine Oil

CAUTION
Always change oil on level ground with the engine cooled.

Put something under the drain plug that will hold at least 5 quarts of oil. The drain plug is located on the left side of the engine. It is not necessary to remove the skid plate. Unscrew the drain plug from the oil pan. Let the oil drain into container. While oil is draining from oil pan the oil filter can be changed. The oil filter is also on the back left side of the engine. Remove the oil filter and get the new oil filter out. Put oil around the seal of the new filter and screw onto the engine. Now the oil should be done draining out of the oil pan. Screw the plug back into the oil pan and remove container of the old oil. Add five quarts of oil to the engine.

Refer to Service Notes on page 3 for the type of oil filter, oil, and other maintenance needs.

VIN TAG

GENERAL

THE TAG IS LOCATED ON THE RIGHT SIDE OF THE FRAME ON THE FORK NECK.

MFD BY **BOSS HOSS CYCLES, INC**			MM/YY
TYPE: MC		FRT	REAR
GVWR……1675 LBS.	TIRE	MT90B16	230/60-15
GAWRF……827 LBS.	RIM	16" X 3 ½"	15" X 7"
GAWRR……848 LBS.	PSI	49	42
(COLD)			
THE VEHICLE CONFORMS TO ALL APPLICABLE			
FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN			
EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.			
VIN NO.			
1B9TBVC32ND285000			

THE VEHICLE IDENTIFICATION NUMBER (VIN) IS DECODED USING THE FOLLOWING BREAKDOWN:

1			2					3	4							
WORLD MANUFACTURER IDENTIFIER (WMI)			VEHICLE DESCRIPTOR SECTION					CHECK DIGIT	MODEL YEAR	PLANT	Manufacturer Identifier if <500 units/TR or Sequential Production Number if >500 units /TR			Sequential Production Number		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	B	9	T	B	V	C	3	2	N	D	2	8	5	0	0	0

Chart 1.4

BOSS HOSS LIMITED 12-MONTH WARRANTY

Boss Hoss Cycles, Inc. warrants to the first retail purchaser and authorized transferees of our new 2005 motorcycles/trikes that any authorized Boss Hoss dealer will repair or replace any parts (except tires, maintenance items and battery under certain conditions) found under normal use in the U.S.A. to be defective in factory materials or workmanship, and upon the following terms and conditions:

Standard billing of parts will apply until the part in question is returned and inspected by Boss Hoss Cycles, Inc. Credit will then be issued.

DURATION & TRANSFER

1. **The duration of this limited warranty is twelve months, measured from the date of initial purchase from an authorized Boss Hoss Dealer.**
2. **Any unexpired portion of this limited warranty may be transferred, with written authorization, upon the resale of the motorcycle /trike during the warranty period. To obtain authorization, a transfer application must be filed with Boss Hoss Cycles, 790 S. Main, Dyersburg, TN 38024.**

OWNER OBLIGATIONS

1. **To qualify for warranty protection, you and the selling Dealer must complete the Warranty Registration Form and return it to the Factory within 10 days after delivery.**
2. **To obtain warranty service, return your motorcycle /trike at your expense within the warranty period to any authorized Dealer. The Dealer will be able to provide warranty service during normal business hours and as soon as possible, depending upon the workload of the Dealer's service department and the availability of necessary parts.**

EXCLUSIONS

This warranty will not apply to any motorcycle/trike as follows:

1. **Which has NOT been operated or maintained as specified in the Owner's Manual.**
2. **WHICH HAS BEEN ABUSED, ALTERED OUTSIDE OF ORIGINAL FACTORY SPECIFICATIONS, IMPROPERLY STORED OR USED "OFF THE HIGHWAY", FOR RACING OR COMPETITION OF ANY KIND.**
3. **Which has had the odometer removed or tampered with.**
4. **502 BIG BLOCK BIKE AND TRIKE ENGINES AND DRIVETRAINS ARE EXCLUDED FROM THE 12-MONTH WARRANTY.**

OTHER LIMITATIONS

THIS WARRANTY DOES NOT COVER:

1. **Parts and labor for normal maintenance as recommended in the Owner's Manual, including such items as the following: lubrication, oil and filter change, battery maintenance, engine tune-up, spark plugs, light bulbs, brake and belt adjustment.**
2. **Seats, saddlebags, paint, chrome, or trim deterioration caused by ordinary wear and tear, exposure or improper maintenance.**

IMPORTANT / READ CAREFULLY

1. **Boss Hoss dealerships are independently owned and operated and may sell other products. Because of this, BOSS HOSS CYCLES, INC. IS NOT RESPONSIBLE FOR THE SAFETY, QUALITY, OR SUITABILITY OF ANY NON-BOSS HOSS PART, ACCESSORY OR DESIGN MODIFICATION INCLUDING LABOR, WHICH MAY BE SOLD AND /OR INSTALLED BY OUR DEALERS.**
2. **THERE IS NO OTHER EXPRESS WARRANTY (OTHER THAN EMISSIONS AND NOISE WARRANTIES) ON THE MOTORCYCLE/TRIKE. ANY IMPLIED WARRANTY OF THE MERCHANTABILITY OR FITNESS IS LIMITED TO THE DURATION OF THIS WARRANTY.**
3. **TO THE FULLEST EXTENT ALLOWED BY LAW, BOSS HOSS CYCLES, INC. AND ITS DEALERS SHALL NOT BE LIABLE FOR LOSS OF USE, INCONVENIENCE, LOST TIME, COMMERICIAL LOSS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

190 South Main Street ◆ Dyersburg, TN 38024 ◆ Main Phone: 731.286.4935 ◆ Main Fax: 731.286.2451
Parts Phone 731.259.0360 ◆ Parts Fax: 731.288.0921 ◆ email: bosshoss@usit.net ◆ web: bosshoss.net

WARRANTY REGISTRATION FORM

Dealer makes no warranty of any kind, express or implied, except that the goods sold shall be of the standard quality sold by Boss Hoss Cycles, Inc. *WARRANTY EXCLUDES ENGINE AND DRIVETRAIN ON BIG BLOCK BIKES AND TRIKES.* If the goods fail to meet that standard, they will be replaced within one year. Dealer assumes a percentage of all replacement costs on this unit, if the vehicle has 500 or greater miles on the odometer at time of sale. Purchaser assumes all risks and liability resulting from the use of the goods, whether used singly or in combination with other goods. Dealer neither assumes nor authorizes any person to assume for Dealer any other liability in connection with the sale or use of the goods sold, and there are no oral agreements or warranties collateral to or effecting this agreement. Dealer does not warrant that the goods will meet or comply with the requirements of any safety code or regulation of any state, municipality, or other jurisdiction. Dealer states affirmatively that goods have not been tested. Purchaser acknowledges that prior to signing this agreement, he/she has fully examined the goods and found them to be in satisfactory condition.

Purchaser further acknowledges that a Boss Hoss motorcycle or trike, should never be operated by an inexperienced, underage or unlicensed driver. Upon purchasing a Boss Hoss motorcycle or trike, I do fully understand that the drivetrain assembly may contain reconditioned components and are therefore not new. Purchaser, for his/herself, his/her heirs, executors, administrators, and assigns, hereby releases and forever discharges Boss Hoss Cycles, Inc., its officers, shareholders, employees, franchisees, distributors and agents from all claims, demands or actions which buyer may have, or claim to have as a result of the purchase of goods from Boss Hoss Cycles, Inc. or the use and operation of said goods.

UPON PURCHASING A BOSS HOSS MOTORCYCLE OR TRIKE, I DO FULLY UNDERSTAND THAT THE DRIVETRAIN ASSEMBLY CONTAINS SOME RECONDITIONED COMPONENTS AND ARE THEREFORE NOT NEW.

TO OPERATE BOSS VEHICLES YOU MUST BE AN EXPERIENCED RIDER

VEHICLE IDENTIFICATION NUMBER:

PURCHASER (PLEASE PRINT):

NAME: FIRST INITIAL LAST

ADDRESS:

CITY: STATE: ZIP:

SOCIAL SECURITY #: DATE OF BIRTH: SEX: M F

E-MAIL: TELEPHONE:

MODEL: ENGINE NUMBER:

VEHICLE MILEAGE AT TIME OF SALE:

DATE OF SALE:

IS VEHICLE STOCK? YES _____ NO _____

IF NOT WHAT IS DIFFERENT? _____

PURCHASER SIGNATURE: DATE:

BOSS HOSS DEALER:

DEALER SIGNATURE: DATE:

Manufacturers Statement of Origin will be mailed with the return of this form. It is necessary to have MSO to apply for title.
3 copies, white to BOSS CYCLES, INC. canary-customer/pink-dealer

Boss Hoss Cycles
700 South State Street ◆ Dyersburg, TN 38024 ◆ Main Phone: 731.286.4905 ◆ Main Fax: 731.286.2451
Parts Phone: 731.288.0008 ◆ Parts Fax: 731.288.0401 ◆ email: bosshoss@usit.net ◆ web: bosshoss.net

WARRANTY TRANSFER APPLICATION

Dealer makes no warranty of any kind, express or implied, except that the goods sold shall be of the standard quality sold by Boss Hoss Cycles, Inc. **WARRANTY EXCLUDES ENGINE AND DRIVETRAIN ON BIG BLOCK BIKES AND TRIKES.** If the goods fail to meet that standard, they will be replaced within one year. Dealer assumes a percentage of all replacement costs on this unit, if the vehicle has 500 or greater miles on the odometer at time of sale. Purchaser assumes all risks and liability resulting from the use of the goods, whether used singly or in combination with other goods. Dealer neither assumes nor authorizes any person to assume for Dealer any other liability in connection with the sale or use of the goods sold, and there are no oral agreements or warranties collateral to or affecting this agreement. Dealer does not warrant that the goods will meet or comply with the requirements of any safety code or regulation of any state, municipality, or other jurisdiction. Dealer states affirmatively that goods have not been tested. Purchaser acknowledges that prior to signing this agreement, he/she has fully examined the goods and found them to be in satisfactory condition.

Purchaser further acknowledges that a Boss Hoss motorcycle or trike, should never be operated by an inexperienced, underage or unlicensed driver. Upon purchasing a Boss Hoss motorcycle or trike, I do fully understand that the drivetrain assembly may contain reconditioned components and are therefore not new. Purchaser, on his/herself, his/her heirs, executors, administrators, and assigns, hereby releases and forever discharges Boss Hoss Cycles, Inc., its officers, shareholders, employees, franchisees, distributors and agents from all claims, demands or actions which buyer may have, or claim to have on account of the purchase of goods from Boss Hoss Cycles, Inc. or the use and operation of said goods.

UPON PURCHASING A BOSS HOSS MOTORCYCLE OR TRIKE, I DO FULLY UNDERSTAND THAT THE DRIVETRAIN ASSEMBLY CONTAINS SOME RECONDITIONED COMPONENTS AND ARE THEREFORE NOT NEW.

TO OPERATE BOSS VEHICLES YOU MUST BE AN EXPERIENCED RIDER

VEHICLE IDENTIFICATION NUMBER:

PURCHASER (PLEASE PRINT):

FIRST INITIAL LAST

NAME:

ADDRESS:

CITY: STATE: ZIP:

SOCIAL SECURITY #: DATE OF BIRTH: SEX: M F

E-MAIL: TELEPHONE:

MODEL: ENGINE NUMBER:

VEHICLE MILEAGE AT TIME OF SALE

DATE OF SALE:

IS VEHICLE STOCK? YES _____ NO _____

IF NOT WHAT IS DIFFERENT? _____

PURCHASER SIGNATURE: DATE:

BOSS HOSS DEALER:

DEALER SIGNATURE: DATE:

WARRANTY EXPIRATION DATE WILL BE 12 MONTHS FROM INITIAL RETAIL PURCHASE DATE. NO WARRANTY TRANSFER WILL BE AUTHORIZED AFTER THE WARRANTY EXPIRATION DATE.

CONSUMER PRODUCT SATISFACTION

Boss Hoss Cycles designs, tests and constructs all its products of the highest quality materials and components that meet or exceed industry standards. If at any time during ownership of a Boss Hoss product, you feel that the quality or safety of your vehicle is compromised please contact BOSS HOSS CYCLES immediately either by telephone at 731-286-4915, or e-mail to info@bosshoss.com , or mail to:

Boss Hoss Cycles, Inc.
790 South Main Street
Dyersburg, TN 38024
Attn.: Safety Management

Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Boss Hoss Cycles, Inc.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in any individual problems between you, your dealer, or Boss Hoss Cycles, Inc.

To contact NHTSA you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (366-0123 in Washington, DC area) or write to:

NHTSA
U.S. DEPARTMENT OF TRANSPORTATION
400 7th Street SW, (NSA-11)
Washington, DC 20590

SECTION TWO:

FRAME ASSEMBLY

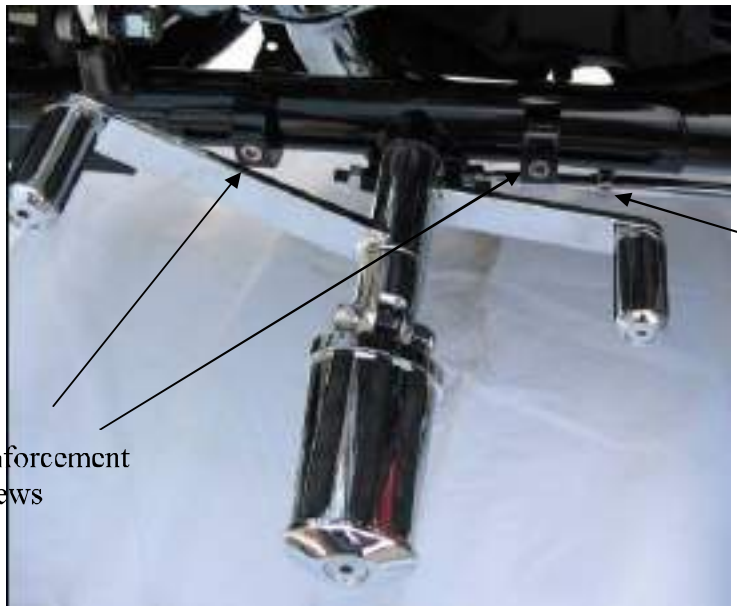
2005 BIKE FRAME

PATENTED BOSS HOSS FRAME (FIG. 2.1A)

Cast Neck (Yoke) (FIG. 2.1B)

Detachable crash bars (FIG 2.1C)

To detach the crash bars remove the signal light screw (2), radiator shroud screw (3), and the bolts that hold the crash bar to the frame (1) and (4).



Adjustable driver pegs (FIG. 2.1D)

To adjust the driver pegs loosen the two screws going through the slider reinforcement clamps above. The screw on the shifter rod will also need to be loosened so that the shifter rod will be able to slide in or out with the pegs. Once the pegs are in a comfortable position tighten all the screws.

Lower engine mounts (Fig. 2.1E)

Upper Engine Mounting Brackets (FIG. 2.1F)

Water Pump- (FIG. 2.2)

Caution
DO NOT run pump dry. Operating the water pump without water and/or antifreeze in the cooling system will reduce the operating life of the water pump.

Mirage Kickstand (FIG. 2.3)

The kickstand mounts on the left rear of frame close to swing arm pivot bolt.

Caution
Always park the motorcycle on a level, firm surface. Vehicle weight could cause motorcycle to fall over. Cosmetic damage could occur. Use of parking brake is recommended each time you park.

Warning
Your motorcycle is equipped with a kickstand that locks when placed in the full forward (down) position and the vehicle weight is rested on it. Without vehicle weight resting on the kickstand, any movement of the motorcycle could cause the kickstand to retract slightly from the full forward position. If the kickstand is not n the full forward (lock) position when motorcycle weight is rested on it, the motorcycle could fall over, possibly causing injury.

Inverted Front End (FIG. 2.4)

The headlight (Fig. 2.5 on the right) mounts on the headlight mounting bracket, which is mounted to the front of the lower tree. The only two models where the headlight does not mount this way is the '57' trike and the truck trike. On these two models the mounting bracket is mounted to the top of the lower tree.

Headlight (FIG. 2.5)

SECTION THREE:

CHASSIS

BIKE SPECIFICATIONS

ZZ4 V8 DIMENSIONS

Wheel base..... .....80"
Saddle height..... 28"
Dry Weight.....1100 lbs.
Engine..... .....GM V8
Horsepower 355

ZZ502/502 V8 DIMENSIONS

Wheelbase.....82"
Saddle height.....28.5"
Dry Weight.....1300 lbs.
Engine.....GM V8
Horsepower.....502

VEHICLE WEIGHT RATINGS (LBS)

The Gross Vehicle Weight Ratings (GVWR) and Gross Weight Ratings (GAWR) are found on a label on the frame steering head.

		S.B.	B.B.
V8	GVWR	1675 lbs.	1827 lbs.
V8	GAWR..(front)	827 lbs.	827 lbs.
V8	GAWR..(rear)	848 lbs	1000 lbs.

CAPACITIES

Fuel tank (U.S. Gallons)		8.5
Cooling System (U.S. Quarts)	SB 12	BB 14.5
Oil Pan (U.S. Quarts)		5
Auto Transmission (U.S. Quarts)	Bike	2.5-3.5
	Trike	8

FUEL: 92 OCTANE IS RECOMMENDED

TORQUES

Front Axle .....50 ft-lbs.
Rear Axle Nut.....15 ft-lbs.
Pulley mounting bolts.....45-50 ft-lbs.
Brake disc mounting (Frt.)....20 ft-lbs.
Brake disc mounting (Rear)...30 ft-lbs
Caliper mounting bolts..... 30 ft-lbs.
Caliper bracket bolts.....45 ft-lbs.
Fork brace pinch bolts..... 40 ft-lbs.
Slider cap bolts.....50 ft-lbs.
Riser bolts.....45 ft-lbs.
Riser cap bolts.....15 ft-lbs.
Rear swing arm pivot bolts...100 ft-lbs
Rear wheel lug nuts .1/2-20...80 ft-lbs.
Steering stem bolt.....55 ft-lbs.

BRAKE DISC

Front.....12.5 in.
Minimum brake rotor thickness 4.5mm
Minimum brake pad thickness 0.050 in.
Rear.....12.5 in.
Minimum brake rotor thickness 5.5mm
Minimum brake pad thickness 0.050 in.

TIRE DATA

Tire pressure	Up to	Front	Rear
PSI (Cold)	GVWR* Maximum load	**50**	**42**

WHEEL	TIRE
Front...16" x 3.5"	MT90B16 (Avon)
Rear.... 15" x 7"	230/60R15(Avon)

WARNING

Maximum inflation pressure must not exceed specifications state in this manual. Failure to follow this warning could cause tire failure possibly resulting in personal injury.

WHEELS

GENERAL

Maximum tire mileage and good handling qualities are directly related to care given to wheels and tires. A tire kept in continuous service will wear irregularly and peaked and may affect handling, especially if over-inflated. It is extremely important that correct tire pressure be maintained at all times. Do not over-inflate tires.

Check inflation pressure and inspect tread for punctures, cuts, breaks, etc., on weekly bases. Check before going on trips, also.

WARNING

Riding with excessively worn tires is very hazardous and will adversely affect traction, steering and handling. At regular intervals of 5000 miles, or at any time handling irregularities are experienced, see the charts on pages 4-5.

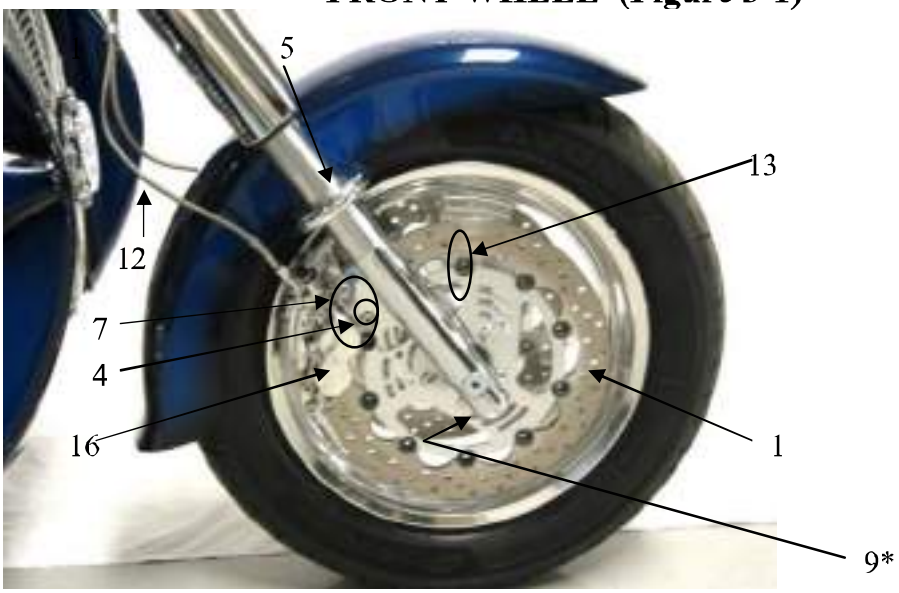
WHEEL SERVICE CHART	
CHECK FOR:	**REMEDY:**
1. Loose axle or axle nuts.	1. Tighten axle or axle nuts.
2. Excessive side-play or radial (up-and-down) play in wheel hubs.	2. Replace wheel hub bearings as described in INSPECTING AND REPAIRING WHEEL HUBS.
*For Sealed Bearings	*See authorized Boss Hoss Technician.
3. Alignment of rear wheel in frame.	3. Check wheel alignment as described in Section Seven.
4. Rims and tires out-of-true sideways, (should not be more than 3/64 in.).	4. True wheels, replace rims.
5. Rims and tires out-of-round or eccentric with hub (should not be more than 3/32 in.)	See Item 4, above.
6. Irregular or peaked front tire wear.	6. Replace as described in REMOVING & INSTALLING FRONT WHEEL.
7. Correct tire inflation.	7. Inflate tires to correct p.s.i., as described in SPECIFICATIONS.
8. Correct tire and wheel balance.	8. Static balance may be satisfactory if dynamic balancing facilities are not available, however, dynamic balancing is also recommended.
9. Steering head bearings.	9. Correct adjustment and replace pitted or worn bearings. See FORKS.
10. Shock absorbers.	10. Check damping action and mounting stud rubbers. See FORKS.
11. Rear swing arm bushing.	11. Check for looseness. See SWINGARM

WARNING

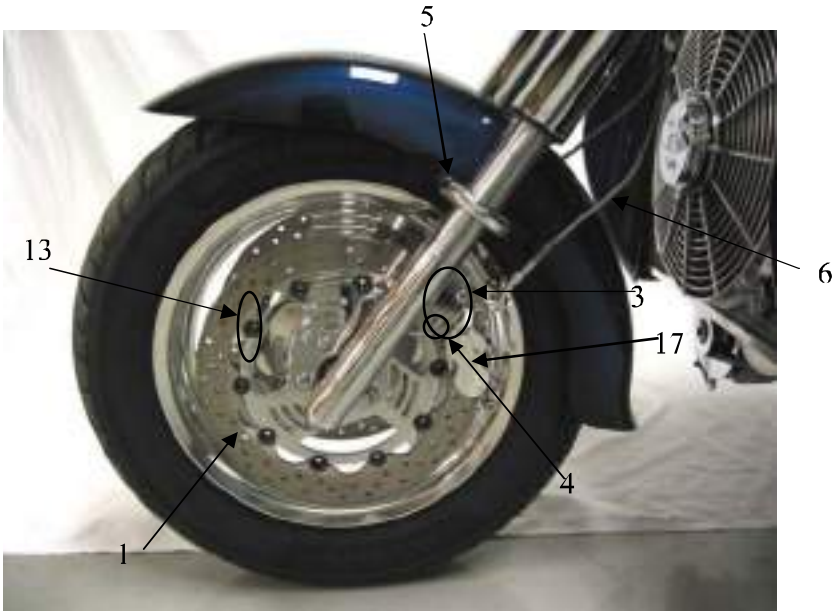
When repairing a flat tire or installing a new tire, the procedures below should be followed:

1. **Always locate and eliminate the cause of the original tire failure.**
2. **Do not patch or vulcanize a tire casing because this weakens the casing and may cause a blowout.**
3. **The use of tires other than those specified, may adversely affect handling.**

FRONT WHEEL (Figure 3-1)



Right side of wheel **Figure 3-1A**



Left side of front wheel **Figure 3-1B**

* The axle pinch bolt is not show in the picture, but is located in the back of the right side fork. The arrow is pointing to the location.

Front Wheel **Figure 3-2**

Front Wheel Component Description & Part Numbers from Figures 3-1 & 3-2.

Item #	Description	Part #
1	Side brake disc	Call for #
2	Wheel bearing	1630306
3	Left caliper mounting bracket	1550301C
4	Caliper mnt. Bolts & lock washers	
5	Fender mounting brackets	1240350
6	Left lower brake line	1530352L
7	Right caliper mounting bracket	1550306C
8	Axle	1410302
9	Axle pinch bolt	
10	Wheel assembly inner spacer	1630304
11	Left axle spacer	1420304
12	Right lower brake line	1530352R
13	Brake disc mounting bolts	
14	Tire	1620003
15	Wheel	1610300B5
16	Right side brake caliper	1520300PA
17	Left side brake caliper	1520301PA
18	Right axle spacer	1420305

Chart 3.2

WARNING
Carefully read this section of the manual before performing any work. Your Boss Hoss dealer has trained technicians who can complete the work using proper tools and equipment. Improper repair and/or maintenance may result in personal injury.

CAUTION
Do not operate front brake lever when caliper is removed. The brake caliper pistons may be forced out of the bore.

REMOVAL (FIGURE 3-1)

1. Apply rear brake lock.
2. **Motorcycles proceed with steps 3 thru 9.**
3. Begin by placing a jack stand (approximately 10" high) directly below the lower engine mount, under the right side frame tube while the cycle is on the kickstand.
4. Place a floor jack under the frame just behind the lower engine mount. Lift cycle by raising the jack. Place another jack stand (approximately 10" high) under the left side frame tube, directly below the lower engine mount.
5. Lower the jack slowly until the cycle is supported by the jack stands. The front tire should have approximately 6" of clearance above the ground.

NOTE: It may be necessary to remove the front fender for tire removal.

6. Remove the left and right caliper mounting bolts (4) using a 6mm hex bit tool and slide calipers off the rotor. Secure away from wheel and fender to prevent contact.
7. Loosen axle pinch bolt (9) using a 5/16" hex bit tool.
8. Loosen the axle (8) by rotating counter clockwise using a 3/8" hex bit tool, then pull axle free of fork assembly while supporting the wheel assembly.
9. Remove wheel assembly and axle spacers.

NOTE: Keep right and left axle spacers identified, they are not interchangeable. They require different lengths for locating the wheel in the center and must be reinstalled in the same location as removal.

Trike removal procedure. For the trike, proceed with step 10 and 11.

10. Begin by placing a floor jack under the center of the front cross member of the frame. Lift the trike by raising the jack. Place a jack stand (approximately 10" high) directly below engine mount, under each side frame tube.
11. Refer back to step 5 and proceed.

IMPORTANT NOTE: before removing front wheel assembly from the cycle, check wheel-bearing condition. There are two steps in this procedure.

1. With the cycle supported off the ground, rotate the wheel listening for any 'rough' noise.
2. Check the endplay with a dial indicator; it should NOT be more than 0.002 inches. If any noise is heard or endplay is over 0.002 inches, bearings MUST be replaced. Replace as a set.
3. Sealed wheel bearing removal requires a special tool and should be changed by an **authorized Boss Hoss service center.**

WARNING
After proper tightening of axle, wheel-bearing endplay should be less than 0.002 inches. Improper performance of this installation may result in personal injury.

DISASSEMBLY (FIGURE 3-2)

1. Remove brake disc mounting bolts (13) using a T40 Torx bit tool. Remove brake discs (1).
2. Remove tire from wheel.

CLEANING, INSPECTION AND REPAIR

1. Clean all parts in solvent and inspect for damage or wear.
2. Replace brake disc if it is warped, scored or worn beyond specifications. See SPECIFICATIONS.

ASSEMBLY (FIGURE 3-2)

1. Install tire (14) on wheel (15).
2. Install brake discs (1) with disc mounting bolts (13) using T40 Torx bit tool.

CAUTION Removable thread locker must be applied to disc mounting bolt (13) threads. Tighten each bolt, in a criss-cross pattern, to 15ft-lbs. of torque.

INSTALLATION (FIG. 3-1)

1. Place front wheel assembly (Fig. 3-2) between fork legs.
2. Apply anti seize over complete front axle then insert axle (8) from right side fork through right side axle spacer (18) Fig.3-2, wheel assembly spacer (10), left side axle spacer (11) Fig. 3-2 and thread into left fork leg.
3. Tighten front axle (8) to 50 ft-lbs. of torque.
4. Tighten pinch bolt (9) to 25 ft-lbs. of torque.
5. Reinstall brake calipers (16, 17). Align calipers with center of the brake disc. Reinstall mounting bolts and lock washers (4). Tighten to 25 ft-lbs. of torque.

WARNING
After proper tightening of axle, wheel-bearing endplay should be below .004 inches. Improper performance of this installation may result in personal injury.

WARNING
Lock washers may be damaged after initial use. Use new lock washers when reinstalling brake calipers.

LOWERING CYCLE

When maintenance is complete, lower the cycle by reversing the REMOVAL steps 3 through 9 for a motorcycle or 10 and 11 for trikes.

REAR WHEEL

Rear Wheel FIGURE 3-3

REMOVAL OF BIKE WHEEL ASSEMBLY (FIG. 3-3)

IMPORTANT NOTE: before removing rear wheel assembly from the cycle, check wheel-bearing condition. There are two steps in this procedure.

1. With the cycle supported off the ground, rotate the wheel listening for any 'rough' noise.
2. Check the endplay with a dial indicator; it should NOT be more than 0.002 inches. If any noise is heard or endplay is over 0.002 inches, bearings MUST be replaced. Replace as a set.
3. Sealed wheel bearing removal requires a special tool and should be changed by an **authorized Boss Hoss service center**.

WARNING
After proper tightening of axle, wheel-bearing endplay should be less than 0.002 inches. Improper performance of this installation may result in personal injury.

1. Begin by placing a jack stand (approximately 10" high) directly below the lower engine mount, under the right side frame tube while the cycle is on the kickstand.
2. Place a floor jack under the frame just behind the lower engine mount. Lift cycle by raising the jack. Place another jack stand (approximately 10" high) under the left side frame tube, directly below the lower engine mount.

3. Lower the jack slowly until the cycle is supported by the jack stands. The front tire should have 10" (approximate) clearance above the ground.
4. Move jack to rear of frame, centered directly below the rear cross member. Lift cycle until the rear tire is clear of the ground. Utilize jack stand for secure support.
5. Remove the seat pan and rear fender by removing the body bolts using a 5/32" hex bit tool. Be sure to unplug tail light harness. The connector is located at the right front edge of the fender. This allows the taillight to remain mounted.
6. Remove the upper belt guard (Fig.3-3 (1)).
7. Remove four adjuster block bolts (Fig.3-3 (2)) from the top of the swing arm using a 3/8" hex bit tool. This allows covers and spacer blocks to be removed.
8. Remove brake caliper mount (Fig. 3-4 (8)) by removing mounting bolts (Figure 3-4(6)) with a 6mm hex bit tool and slide calipers off the rotor. Secure away from wheel and other components to prevent contact.

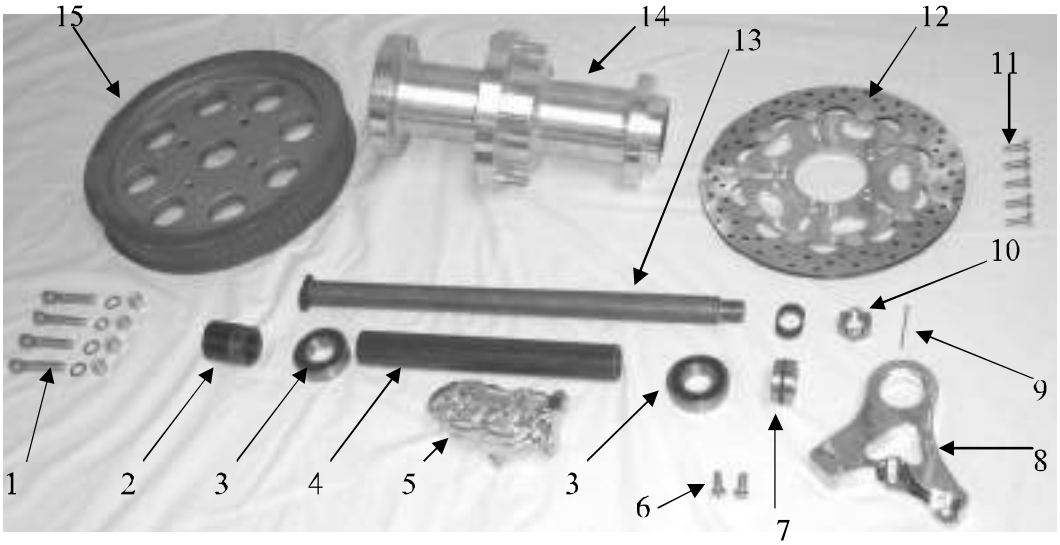
CAUTION: Do not push brake pedal with caliper off rotor! Caliper damage could result.

9. Remove two adjuster end cap bolts (Fig.3-3 (3)) from back of swing arm using a 3/8" hex bit tool. This will release tension from the drive belt.
10. Remove cotter key (Fig. 3-4 (9)) and axle nut (Fig. 3-4 (10)) from right end of axle. Using a rubber hammer, drive the axle out of housing and remove it by pulling from the left side.

CAUTION: Do not pull cycle from secure jack stand location.

12. Slip belt over rear pulley and remove the wheel assembly by rolling straight backwards. Remove axle spacers (Fig. 3-4 (2,7)) from each side of housing.

Note: Keep right (7) and left (2) axle spacers identified, they are not interchangeable. They require different lengths for locating wheel center and must be reinstalled in the same location.



REAR AXLE COMPONENTS FIGURE 3-4

Rear Axle Component Description & Part Numbers from FIGURE 3-4

Item #	Description	Part #
1	Rear Pulley Mounting Bolts	8000620
2	Left Axle Spacer	6430226-1
3	Bearings	6310218
4	Bearing Spacer	6310219
5	Rear Caliper	6520300PA
6	Rear Caliper Mounting bolts	818025
7	Right Axle Spacer	6430205-1
8	Brake Caliper Mount	6570302C
9	Cotter Pin	8500616
10	Axle Nut and Washer	6410210 & 11
11	Rotor Bolts	8110408
12	Rear Rotor	6510300B5CA
13	Axle	6410201
14	Axle Housing	6310203
15	Rear Pulley	3730103

Chart 3.3

DISASSEMBLY OF REAR WHEEL FIG. (3-4)

1. With wheel assembly removed, place cardboard or equivalent for protection down on the floor. Rotate the wheel assembly over placing the pulley flat on top of the cardboard, this allows easy removal of the brake rotor and wheel.
2. Remove the rear brake disc mounting bolts (11) using a T45 Torx bit tool. Remove brake disc (12).
3. Remove rear wheel lug nuts using a ¾" socket. Remove wheel.
4. Remove dust seals from outside of housing and remove bearings for inspection.

BRAKES

GENERAL

The front and rear brakes are fully hydraulic disc brake systems utilizing full floating rotors and four piston calipers. Every 2500 miles check master cylinders for proper fluid levels and check brake pads and discs for wear. If brake pad material is worn to 0.050" or less from backing they should be replaced. Replace in pairs. The minimum brake disc thickness is 4.5 mm on the front rotors and 5.5 mm on the rear. The floating rotor assembly should be visually inspected for any cracks or flaws every 2500 miles. A complete brake system inspection should be performed at least twice a year (for instance, each spring and fall). You should let your Boss Hoss dealer's service department or other qualified Boss Hoss service center do this inspection. The complete inspection should include: inspecting brake lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Inspect disc brake pads for wear and rotors for surface condition. Inspect other brake parts, including calipers, parking brake, etc. You may need to have your brakes inspected more often if your driving habits or conditions result in frequent braking. Make sure any necessary repairs are completed at once.

The brake pedal controls the rear wheel brake and is located on the motorcycle's right side. It is operated by the right foot. The brake hand lever controls the front wheel brakes and is located on the right handlebar control. It is operated by the fingers of the right hand.

Brakes should be applied uniformly and evenly to prevent wheels from locking up. A balance between rear and front braking is generally best.

Warning

- Do not apply either brake strongly enough to lock the wheel. This may cause loss of control of the motorcycle.
- Brake pads must be inspected for wear every 2500 miles. However, if you ride under adverse conditions, steep hills, heavy traffic, etc., more frequent inspection, 1000 miles or less, will be necessary.
- Because brake performance is a critical safety item, brake system serving requires special tools, correct replacement parts and procedures. We recommend that you see your Boss Hoss dealer for these services.

Note

- Operating the motorcycle with right foot resting on rear brake pedal may cause excessive heating of the rear brake components that can lead to brake fade and/or loss of braking function.

The rear brake master cylinder is located on the right side of the motorcycle near the brake pedal. It utilizes a remote reservoir mounted behind the right side panel on the bike. A visual check of the fluid level can be performed by looking in from the rear of the side panel at the reservoir. Access for filling or maintenance would require the removal of the side panel. The reservoir on the trike is mounted under the body near the battery. This application is accessible from the battery access opening in the body that is located under the seat; the seat must be removed from the body.

NOTE
No replacement parts are available for the master cylinder. If there is a problem, the complete master cylinder must be replaced.

Figure3.5 Rear master cylinder Reservoir (Bike)

Figure 3.6 Rear master cylinder reservoir (Trike)

Both the reservoirs are on the right side of the bike or trike. The trike reservoir is mounted behind the motor at the front of the trike body. The bike's reservoir is mounted towards the back of the motorcycle behind the right side panel.

The front reservoir is on the right side of the handlebars. It is shaped like a rectangle and has a Boss Hoss emblem on the cap, which is held on by two screws.

PARKING BRAKE

The parking brake is located on the right side of the motorcycle, under the right side panel. The parking brake is applied by pressing and holding the rear brake, then pressing the 'Jamar' Park-lok line lock to hold the rear brake pressure to the rear caliper. To release the Park Brake you press on the rear brake pedal to apply a force equal to or greater than the pressure that you used to set the brake. When servicing parking brake, spray lubricant onto 'Jamar' Park-lok at the return spring on the plunger actuator shaft.

Parking Brake **Fig. 3.7**

WARNING

DO NOT pump up or apply excessive force to the rear brakes when setting the Park Brake. The force needed to overcome the setting force when trying to release the park brake can cause damage to the master cylinder and/or caliper seals, causing brake system failure.

CAUTION

The Jamar Park-lok is a hydraulic lock that uses the line pressure of the system to hold your brakes locked. The Park-lok will release automatically when the pressure in the lines drops. Check your brake system carefully for leaks or damage that could cause an unexpected release.

NOTE

If excessive force was used setting the park brake, it may be necessary to loosen a caliper bleeder valve to allow the release of the Jamer Park-loc. Open the bleeder by turning counter-clockwise just enough to allow a small portion of fluid to drain and then close by tightening the valve clockwise, this releases the pressure from the Jamer Park-loc. TEST BRAKES BEFORE OPERATING THE BIKE. Bleeding of the rear system may be required after opening the bleeder valve.

BELT ADJUSTING PROCEDURES

Figure 3.8

To adjust belt tension, loosen the adjuster block bolts (1) on top of the swing arm. Adjust belt tension and or wheel alignment by turning the adjuster end cap (2) bolts at rear of swing arm clockwise (TIGHTEN)….. Counterclockwise (LOOSEN)

MAINTENANCE NOTE:
Before alignment of belt…….Be sure rear axle torque is 15 ft lb. and axle nut cotter key (Fig.3-4(10)) is in place. Rear pulley should remain in swing arm and line up with front pulley. Belt should float in center of rear pulley and not contact sides.

CAUTION
PRELOAD AXLE NUT TO 15 FT-LBS. BEFORE BELT IS TIGHTENED. Tightening the belt before the axle is properly secured can cause damage to the rear pulley and drive belt.

FIGURE 3.9

Pulley Alignment

1. Align belt by rolling tire forward and watching belt location on the pulley. If it is to the inside of pulley, tighten the right side adjuster end cap bolt (Fig. 3-8(3)). If it is located to the outside of the pulley, tighten the left side adjuster end cap bolt (Fig. 3-8(3)). Keep rolling the tire forward and adjusted until the belt is centered in the pulley. Now tighten bolts equally to achieve correct belt tension. After completion of this process, DOUBLE CHECK that the belt is still aligned in the center of the pulley after rotating tire forward approximately three revolutions.

CAUTION

- **If belt alignment is not centered on pulley, belt and pulley life could be decreased or failure could occur.**
- **BELT TENSION IS VERY SENSITIVE. TIGHTEN IN ¼ TURN INCREMENTS ONLY. Over tightening may cause premature belt and pulley wear, and or wheel or transmission bearing failure. Be sure belt is properly aligned and all bolts are tight.**

FIGURE 3.10

DIRECT READINGS!

Operation:
With the indicator arm down, place the tension tester longitudinally with the belt span and depress the blue pressure pad. When you feel and hear the distinct "click", do not press further. Remove the gauge and read the correct belt tension by observing the point where the top side of the indicator arm crosses the numbered scale on the gauge body. The engine should run at least five minutes and the belts retensioned to the tension lbs. shown in the pretension column. This procedure insures that the belt will seat in the pulleys properly and that desired belt life will be achieved.

OVERTENSIONING DURING THE INITIAL INSTALLATION TO OFFSET THE OMISSION OF BELT RUN-IN IS <u>NOT RECOMMENDED.</u>

TENSION-TENSION-TENSION. The importance of belt tension cannot be emphasized enough. Improper tensioning of belts is the greatest contributor to premature belt failures, more than all other belt problems. Correct tension is a must for satisfactory belt life. Be sure to read and know the required installation procedure and tensions.
BELT TENSION RANGE: 400-500 FT-LBS.

Front Fork Lock

The front fork lock is located below and to the right of the right side steering stock on the top tree of the inverted front end. To use the lock turn the handlebars to the left. By turning the handlebars to the left that aligns the holes. Then push the lock down.

REAR SHOCK ABSORBER

GENERAL

The Boss Hoss uses two shocks with external coil springs. The shocks are preset for 50/50 extension compression.

ADJUSTMENT

To increase spring pressure for passenger or heavy loads use spanner tool or equivalent and turn the spring seat clockwise to compress, tighten the spring. To reduce the springs rate for a softer, lighter ride turn the spring seat counter clockwise to reduce the compression preload on the spring.

Note

Lifting the weight of the bike will allow easier adjustment of the spring seat. Be sure the bike is stabilized securely before attempting adjustment.

Warning

- **Reducing the spring rate from the factory settings may allow the rear fender to make contact with the rear tire potentially causing tire failure, which may result in personal injury.**
- **Changing spring rate, length or mounting position from the factory specifications may adversely affect the handling and operation of the bike.**

REMOVAL

Raise motorcycle as described in Rear Wheel removal section. Remove the bottom and top mounting bolts. Then remove the shock assembly.

ASSEMBLY is reverse of REMOVAL.

Rear Shock Adjustment **Fig.3.11**

Shock Absorber Adjustable Dampening

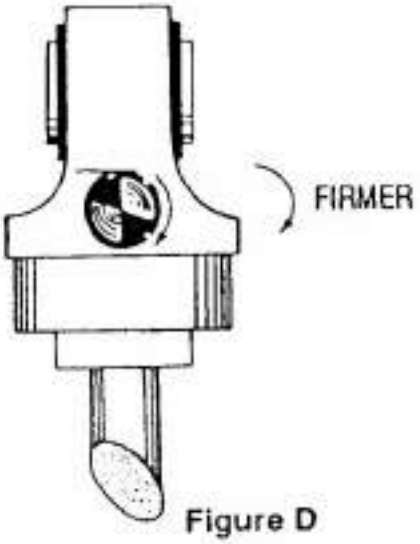


Figure D

SHOCK ADJUSTMENT. The Aldan Eagle adjustable shock has six valve damping positions, so you may dial in the ride you like. To increase firmness, rotate the adjusting knob (located at the top of the shock absorber) **clockwise.** When the knob is rotated all the way out (counterclockwise), the shock damping is at its softest setting **(Figure D).**

Figure 3.12

HANDLEBAR CONTROLS

THROTTLE CONTROL

The throttle control must operate freely without binding and the carburetor throttle must return to the closed position.

Warning
Check for free operation of the throttle grip allowing full range of carburetor linkage movement before operating vehicle.

LEFT HANDLEBAR CONTROLS

FIGURE 3.13

The left handlebar control assembly contains a push button switch for headlamp hi-lo beam, horn and left turn signal, and a push button reverse located just to the left of the high beam button switch, this button engages the transmission to reverse from the neutral position. You shift up with your toes on the front shifter level to put the transmission into reverse and then hold the reverse button to engage reverse. Reverse is powered by the engine and is specially designed to engage smoothly at engine idle.
NOTE: SEE TRANSMISSION SECTION FOR FULL EXPLANATION.

RIGHT HANDLEBAR CONTROLS

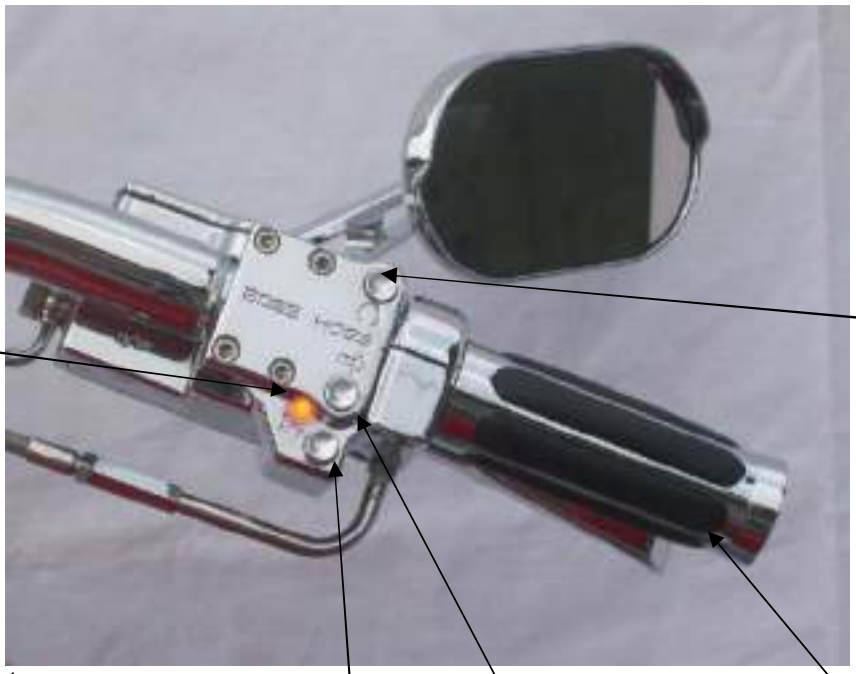


Figure 3.14

The right handlebar control has the throttle grip, front brake lever, and a push button switch for the electric start, right turn signal, and the kill switch. The engine kill switch shuts off the engine immediately. The primary purpose of the kill switch is for emergency situation. The kill switch maybe pushed on accident, which will cause the motorcycle not to start. The RED kill switch indicator light will illuminate when the ignition key is on and the kill switch is in the Run/On position. When the kill switch indicator light is not illuminated the switch is in the Kill/Off position. The throttle is worked by the right hand grip. Gas is given by twisting the grip counter clockwise. The front brake is controlled by the lever in front of the grip.

BODY PARTS
(FENDERS, SIDE PANELS, RADIATOR SHROUD, ETC.)

Figure 3.15

SIDE PANELS

2005 Vacuum Molded Side Panels **Fig. 3.16**

RADIATOR SHROUD

The radiator shroud is vacuum molded and mounts on the front of the frame. To secure, mount on crash bar tabs.

Radiator Shroud **Fig. 3.17**

REAR FENDER

The rear fender is vacuum molded and has two mounting locations.

Rear Fender **Fig. 3.18**

STORAGE COMPARTMENT & LID
These two pieces are vacuum molded.

Lockable storage compartment & lid **Fig. 3.19**

The storage compartment is mounted to the battery tray before installing the seat pan. The storage compartment lid hinges from the seat pan.

SEAT PAN
The seat pan is vacuum molded and it covers the distributor, around the frame, under the seat and holds the storage compartment lid.

Seat Pan shown with the storage lid w/latch **Fig. 3.20**

SEAT

Boss Hoss motorcycles use Mustang Seats. The standard seat has a driver seat and a passenger seat that could also be used as a three-position driver backrest.

Standard Mustang Seat configuration **Fig. 3.21**

CAUTION

- If the passenger seat is used as a backrest, DO NOT apply excess force against the backrest. The three-position tab can be bent if excessive force is applied. Improper operation can cause paint damage.
- When re-installing the passenger seat into the driver seat, be certain that the tongue is inserted into the seat groove properly. It can mistakenly be slid into the foam only and have no support from the driver seat. This may allow the top edge of the tongue to contact the seat pan and storage compartment lid. PAINT DAMAGE COULD OCCUR.

SECTION FOUR:

ENGINE

Factory new General Motors (GM) engines power all Boss Hoss motorcycles and trikes.

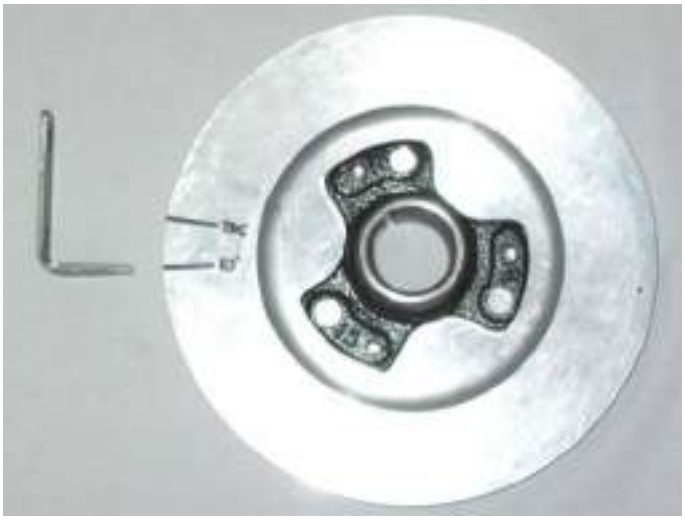
We offer the GM ZZ4 V8 Small Block (SB) crate engines and GM ZZ502/502 V8 Big Block (BB) crate engines in our bikes and trikes.

Initial Engine Break-in

General Motor's and Boss Hoss Cycles recommends that for proper engine break-in you drive the first 500 miles normally, without high RPMs (below 5,000 RPM), hard use, or extended periods of high loading. After the initial 500 miles change the engine oil and filter. With the proper initial care your engine should be ready for many miles of cruising.

Caution
Subjecting your engine to high RPMs (above 5,000 RPM) can damage your engine, causing reduced performance and shorten engine life.

Ignition Timing
Ignition timing is preset at the factory. Spark timing is set to increase when engine speed increases and to decrease when engine speed decreases.



Timing Indicator & Pulley Markings **Fig.4-1**
Time stock ZZ4 engine using the indicator/pointer located on left front of engine. Start engine. Disconnect vacuum advance tube and plug vacuum to carburetor at 800RPM. Time engine to 10-degree mark (TDC mark for ZZ4/CAM & 502) located on the back of crank pulley. Lock distributor in place. Reconnect vacuum advance.

Additional Timing Settings: (with vacuum advance connected)
ZZ4 engine with Cam: TDC at 36 degree at 2400 RPM
502 engine: TDC at 42 degree at 2400 RPM

Ignition Switch

The ignitions switch on the bike and the trike are both mounted in the same location the bike ignition switch which is shown in figure 4.2 and trike switch which is shown in figure 4.3 are both on the Left side of the vehicle behind the valve cover. The difference between these two is that the trike has a red fuel selector switch mounted next to the ignition switch. The switch allows the operator to select between the main fuel tank and the reserve tank (see page 83).

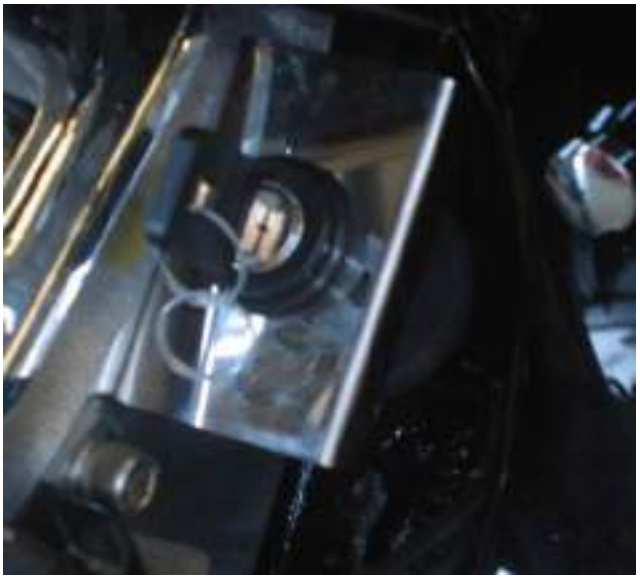


Figure 4.2 Ignition switch on bike.

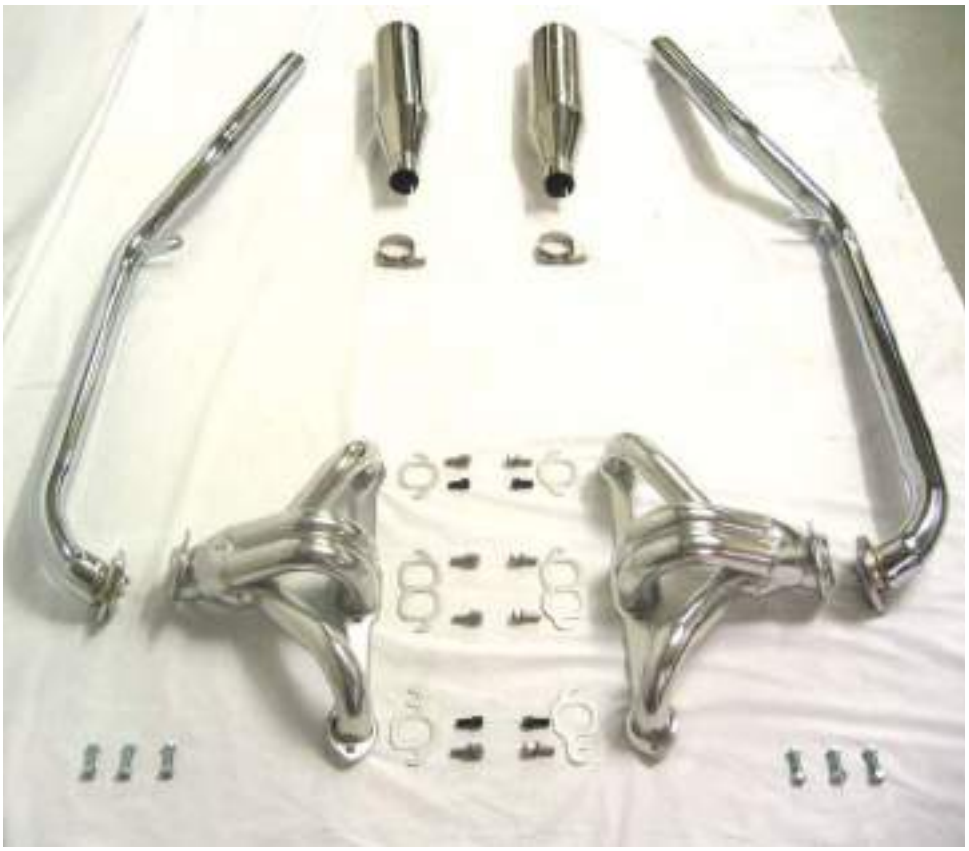
Figure 4.3 Ignition switch on trike.

The ignition key is also the key that operates the front fork lock (both bike & trike) and the storage compartment lock (bike only). The trunk lock on the trike requires a different key from the ignition.

Exhaust System

GENERAL

The BOSS uses a D.O.T. Legal Standard exhaust system with block hugger headers, custom exhaust pipes and 2-inch clamp on mufflers as shown in Figure 4-4.



D.O.T. Legal Standard Exhaust System **Fig. 4-4**

EXHAUST SHIELD **Fig. 4-5**

The exhaust shields are custom fabricated and attach to the headers with two spring clips. (Fig. 4-5)

WARNING

- This or any exhaust component can be extremely hot during or after engine operation. Avoid contact with these components. Contact with these components could cause personal injury.
- KEEP ANYTHING FLAMMABLE AWAY FROM THE EXAUST SYSTEM.

SECTION FIVE:

FUEL SYSTEM

FUEL SYSTEM

GENERAL

The BOSS HOSS fuel system is composed of an 8.5-gallon main fuel tank and an electric fuel pump. The carburetor for the ZZ4 engine is an Edelbrock 795 cfm Quadra jet with an electric choke model #1904. The ZZ502 models utilize an Edelbrock 850 cfm Quadra jet model #1910. The electric choke has to be removed from the carburetor for the 502 BB engine so that it will clear the frame.

CARBURETOR (FIG. 5-1)

CARBURETOR **Fig 5-1**

The picture above is an Edelbrock 795 with an electric choke. Electric choke is the ZZ502 BB models.

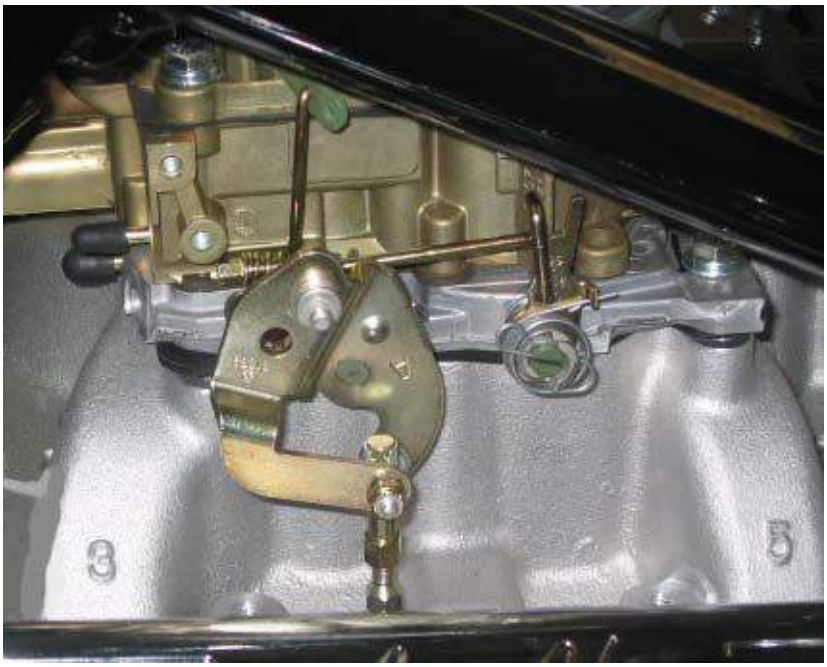
FUEL PUMP

The fuel pump, a Carter P4070 (4-6 psi, 72 gph) is mounted on the frame tube just above the transmission bell housing on **both the bike and trike.** The wiring connects to the main harness connector. A wire safety clip included, should be installed securing the pump terminal connectors to the pump.

Fuel Pump for bike and Trike Fig.5-2

THROTTLE LINKAGE

The throttle bracket is bolted to the intake manifold. The throttle return spring is attached to a tab mounted on the top front left side frame splice bolt.



Throttle Linkage Connection at Carburetor Fig. 5-3

WARNING
Throttle return spring must have appropriate tension to fully close carburetor linkage. Failure to maintain this tension may cause component damage or personal injury.

CAUTION

- Use extreme caution when tightening the 12-24 lock nut onto cable end during mounting. Over tightening may twist off the end of the cable or crack it causing failure.
- 2 spacers lie underneath each bolt of the ZZ4 model throttle cable mount, and under the front only of the 502 model throttle cable mount for best alignment of cable.

FUEL TANK

The tank is a 5 piece stamped unit with a single filler opening on the right side. The left filler is welded close. The fuel petcock (fig. 5-6 on the next page) (Pingel 6210 AH 3/8" NPT) is on the left side. The tank utilizes a 3/8" crossover line for fuel transfer between the two sides. The tank utilizes a ¼" medal vent tube that exits from the bottom right side of the tank, directly under the filler cap location. A vent hose is routed from the tank to the lower rear frame cross member. The tank has a recessed pocket for gauge clearance and enabling a lower dash profile. This pocket is where the fuel indicator sender is mounted, which is illustrated below. The tank is mounted to the frame with 4 bolts through the mounting tabs in the front and rear of the tank.

8.5 GALLON TANK TOP **FIG. 5-4**

Fuel Sender **Fig. 5-5**

Fuel Petcock **(Fig. 5-6)**

The fuel petcock is located underneath the left side of the gas tank. The petcock is the fuel on/off valve. If the lever on the petcock is going towards the front the valve is open. If the valve is going towards back the fuel is off.

SECTION SIX:

COOLING SYSTEM

COOLING SYSTEM

GENERAL

The BOSS uses an aluminum radiator, electric water pump, electric fan, fan controller and water manifold to cool the engine.

WATER MANIFOLD (FIG. 6-1)

The water manifold is installed on the engine in the same location as an automotive style water pump with three o-rings and four 3/8" x 1" socket head cap screws. Make sure the o-rings used to seal the manifold are in place. Torque bolts to 45 ft-lbs.

Water Manifold **Fig. 6-1**

WATER PUMP

The electric water pump is mounted on the pump shelf located at the lower left front of the frame using four ¼" x 1" bolts with flat washers on top and ¼" nylon locknuts on the bottom (Fig. 6-2). The water manifold and pump are connected with 5" of ¾" hose and two hose clamps.

Water Pump **Fig. 6-2**

CAUTION: If Chrome Cover is placed on water pump, it must be mounted flush with the back of the pump motor. Wiring must be routed outside of the cover and secured to prevent the wire from chafing.

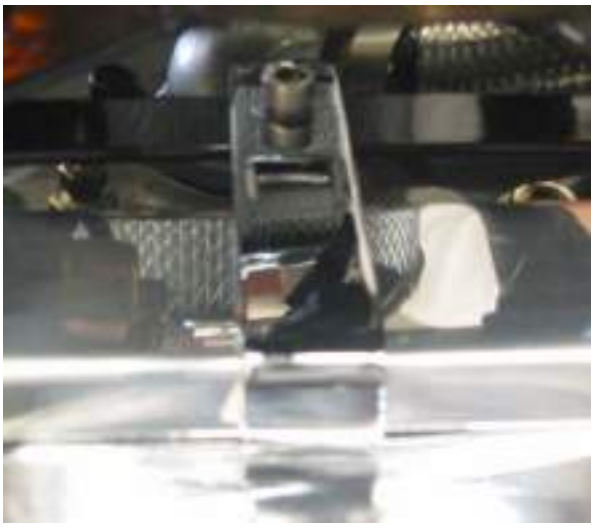
RADIATOR

The aluminum radiator is mounted on the front frame brackets on bottom and held in place with one clamp on top center (Fig. 6.3). The fan is mounted on the radiator. The lower radiator hose is approximately 4" long and connects the radiator and water pump. The upper radiator hose connects from the radiator to intake manifold water neck. An overflow tube is placed at the filler neck and extends down past bottom of frame.

Caution

Check fan periodically for secure fan mounting. Operation of vehicle with fan mounting in loose condition could damage radiator and/or cause personal injury.

Radiator and Fan **Fig. 6.3**



Top radiator clamp **Fig.6.4**

FAN CONTROLLER (FIG. 6-5)

The Boss Hoss uses a specially made thermostatic switch installed in the intake manifold.

The fans will come on at 180 degrees and will go off when a certain deviation to the bi-metal disc is reached.

FAN CONTROLLER Fig. 6-5

The thermostatic switch is a standard part. The part number is 5420301-1.

SECTION SEVEN:

DRIVE SYSTEM

2-SPEED AUTOMATIC TRANSMISSION

GENERAL

The BOSS HOSS has a specially designed two speed automatic transmission with a reverse gear. The transmission is shifted manually by a standard motorcycle style shifter (Fig.7-1). The transmission is considered automatic because there is no manual clutch system. First gear is used from a dead stop up till a desired speed or rpm is reached (See FIRST on the next page). Once a desired speed or rpm is reached shift to second gear, which is an OVERDRIVE ratio. The overdrive ratio allows the engine to turn a pleasant 2300-rpm at 70 miles per hour (See SECOND on next page). Reverse is a two step process that is achieved from neutral with the engine at idle. Reverse is powered by the engine and is specially designed to engage smoothly and be very controllable as a rider friendly feature (See REVERSE on next page).

Two Speed Shifter **Fig. 7-1**

Proper Operation of the Two-Speed Transmission

Your Boss Hoss motorcycle has a two-speed transmission that is manual shifted from one gear to the next without using a conventional manual clutch system. Proper operation of this specially designed transmission will help insure that you enjoy many miles of trouble free use of your motorcycle.

Your motorcycle should only start while the transmission is in the NUETRAL position. The illuminating of the GREEN light on your dash panel indicates this. After starting your motorcycle you can select either reverse or first gear to move your motorcycle.

CAUTION
Shifting the transmission while under a load (accelerating or decelerating) or at high RPM can damage the internal components of the transmission, causing the operating life of the transmission to be reduced.

REVERSE: To select reverse from the neutral position either press down on the rear shifter lever (Fig. 7-1) or use your toes to raise the front shifter lever (Fig. 7-1) **with the engine at idle,** this put the transmission into Reverse gear. Once in Reverse gear, press and hold the thumb button, located on the left handlebar controls below the turn signal button. While holding the Reverse button IN carefully use the throttle to control your reverse rate. **Avoid repetitive pressing of the reverse button, especially while applying throttle control, to reduce unnecessary loading of the reverse band.**

FIRST: To select first gear from the neutral position press down on the front shifter lever (Fig. 7-1). The Green neutral light should go out and our motorcycle is now engaged in drive gear. Just carefully twist the throttle control to accelerate the motorcycle.

SECOND: To select second gear from first gear position you should hold the throttle control at a steady speed (at or above fifty-five (55) miles per hour) and then press down on the front shift lever (Fig. 7-1) to select second gear.

To return to first and/or neutral press on the rear shifter lever or use your toe to raise the front shifter lever once for each gear position desired.

Additional Transmission Notes

Second gear is designed as an OVERDRIVE gear, and should only be utilized as such. **It is important that the bikes not be ridden in second gear at speeds below fifty-five (55) miles per hour.** As with most automatic transmissions it is important that the bike is not operated under a heavy load in overdrive while at low engine rpm's, such as climbing a hill (an automobile automatic transmission will automatically down shift to a lower gear when it is heavily loaded). Running at slow speeds under a load in second gear reduces the fluid coupling efficiency of the torque converter and causes the temperature of the transmission fluid to increase. Overheating of the transmission fluid can lead to premature transmission failure.

All the transmissions that are produced for the Boss Hoss motorcycle are using Mobil 1, MX4T synthetic oil. The Mobil 1 synthetic fluid will maintain its physical properties better than organic fluids when subjected to the heat that the two-speed transmission can produce. This helps to maintain proper fluid coupling through the torque converter, but doesn't protect the soft parts from the heat generated while loading the transmission in second gear.

Shifting of the transmission from first to second gear is another area were the operator can reduce the life of the transmission. **You should never shift the transmission while accelerating**. The best way to shift is to maintain a neutral throttle position at cruising speed while the transmission shifts from one gear to the next. This allows one clutch pack to release and the other to engage without subjecting the internal components of the transmission to any needless high torque shock loads.

Another convenient and often misused feature of the two-speed transmission is the reverse gear. When you press the thumb button to engage reverse you are actuating a solenoid that feeds oil pressure to a band that clamps around the ring gear of the planetary gear set inside the transmission. Each time you press the button the reverse band locks down on the ring gear stopping its rotational motion, repetitious pressing of the reverse button can cause premature wear of the reverse band and also, repetitious pressing of the reverse button while accelerating can cause the reverse band to fail due to needless shock loads. **The proper way to use the reverse gear is to press and hold the button until the reverse band has completely locked the ring gear, and then use gradual acceleration to control the movement of the bike in reverse.**

TRANSMISSION FILLER VENT CAP Fig. 7-2

The vent cap is located at the top right of the transmission housing and is accessed by removing the right side panel from the motorcycle.

OIL USED: Mobil 1 – MX4T Synthetic Oil

FILTER: This is an internal filter that is removed, cleaned, and reinstalled. It is located inside of the transmission just above the bottom plate.

SERVICING OF FILTER: Clean filter at 500 miles, 2500 miles and every 10,000 miles as directed. With the transmission warm, remove one (1)of the button head bolts from the bottom of transmission to allow the fluid to drain. After the fluid has drained, remove the second button head bolt and remove the pan bottom to expose the transmission filter. Remove filter and clean with solvent. Blow particles, sludge, etc. from filter and replace the filter to its original position. Replace pan bottom, resealing or replacing the gasket and fill transmission housing with 2 QTS. MOBIL 1 – MX4T oil or to the proper level. (CAUTION: DO NOT OVERFILL). The filler plug is located on the right side, front corner of the transmission just below the fuse panel.

CAUTION
Pan bolt torque is 4 ft/lbs. Bolt over-torque could result in bolt failure and/or flexing of transmission pan resulting in leaking.

NOTE
This service will drain oil in transmission only. The converter will hold approximately 2.5 quarts that cannot be drained without removal. The transmission housing should hold approximately 2 quarts.

TO ALL OWNERS OF BOSS HOSS MODELS WITH 2- SPEED/REVERSE TRANSMISSION:

THIS IS A MANDATORY SERVICE BULLETIN ISSUED TO PREVENT OIL STARVATION TO PUMP AND CLUTCH PACKS DUE TO CLOGGED OR DIRTY FILTERS.

1. AFTER 500 MILES (NOT EXCEEDING 800 MILES), PLACE BIKE ON JACK STANDS.
2. RUN ENGINE APPROXIMATELY 5 MINUTES TO INSURE FLUID IS WARM AND FLUID LEVEL IS STABILIZED.
3. REMOVE ONE (1) BOTTOM BOLT FROM TRANSMISSION PAN AND DRAIN FLUID INTO CONTAINER.
4. AFTER FLUID HAS DRAINED REMOVE THE SECOND PAN BOLT TO REMOVE THE TRANSMISSION PAN.
5. WITH BOTTOM PAN REMOVED, NOTE FILTER SCREEN LOCATED AT BOTTOM OF TRANSMISSION. REMOVE; CLEAN WITH SOLVENT AND AIR BLOW ALL PARTICLES FREE. CLEAN PAN BOTTOM TAKING CARE NOT TO DAMAGE PAN GASKET.
6. REPLACE FILTER AND PAN BOTTOM.
   CAUTION: DO NOT OVER TIGHTEN PAN BOLTS (4 FT.-LBS. MAX)
7. REFILL WITH APROXIMATELY 2.75 QUARTS OF MOBIL 1 – MX4T THROUGH FILLER PLUG LOCATED ON UPPER RIGHT CORNER OF TRANSMISSION.
8. RUN BIKE 5 MINUTES, SHIFT THROUGH THE GEARS TO FULL ALL FLUID PASSAGES.
9. TURN ENGINE OFF AND LET SET FOR 30 TO 60 SECONDS TO STABILIZE FLUID LEVEL.
10. WITH BIKE STANDING LEVEL; CHECK THE FLUID LEVEL IN SIGHT TUBE AT LOWER RIGHT FRONT OF TRANSMISSION (FLUID LEVEL SHOULD BE IN THE MIDDLE OF TUBE). ADD FLUID AS NEEDED.

CAUTION

- **May require two persons to safely check the fluid level in the transmission.**
- **Overfill of fluid may cause excess fluid to discharge from breather/fill plug.**

FINAL DRIVE

Front Pulley

The front pulley is installed on the transmission output shaft using a 5/16" x 1-7/8" key, set screw, SKX1.5 taper lock bushing and three 5/16" x 1-¼" grade 8 bolts and washers.

Front Pulley **Fig. 7-3**

Rear Pulley

The rear pulley is mounted on the axle spool with four ½" x 2 1/2" socket head bolts and washers. There are two keyway slots in the pulley that match the keyways in the axle spool that assist in stabilizing the rear pulley.

AXLE PULLEY and HOUSING ASSEMBLY **FIG 7-4**

SECTION EIGHT:

ELECTRICAL

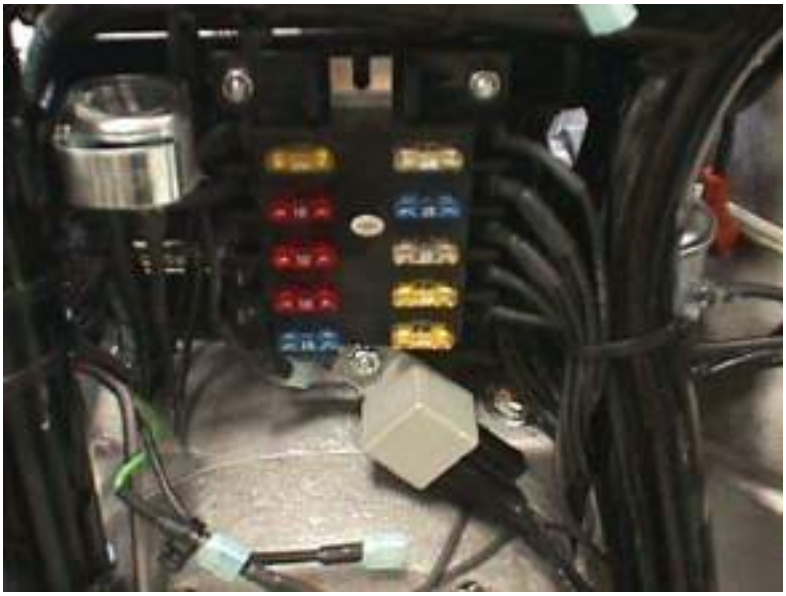
ELECTRICAL SYSTEM

WIRING

GENERAL

The BOSS uses a main wiring harness, tank gauge harness, and fuse block as its main components. Provisions are made to connect to the alternator, fan controller, starter, water temp sensor, water pump, key switch, handlebar controls and lights.

Wiring Harness Fig. 9-1



Wiring Harness with Fuse Block Fig. 9-2

Wiring Harness Fig. 9-3

Master Solenoid (Fig. 9-4)

The master solenoid (Fig. 9-4) is controlled by the ignition switch.

BATTERY

The 680 Odyssey batteries are used on both the bikes and trikes. Odyssey batteries are dry cell batteries which take away the chance of acid spilling. The battery is located under the seat (as seen in figure below).

Model No. PC 680 MJT

Figure 9-5 680 Odyssey Battery

WARNING: Battery must have mounting bracket securing it in proper location before operating bike/trike.

WARNING: Use extreme caution with correct cable mounting. The (HOT) positive cable is routed to the master solenoid. The (GROUND) negative cable is routed to the bell housing mounting bolt.

Starter Relay Fig. 9.6

Neutral safety switch Fig. 9.7

The female spaded wire off of the relay goes to neutral safety switch on shifter for a trike (neutral safety switch shown in figure 9.6, located below left floorboard on trike).
Note: Other terminal on neutral switch goes to engine ground it does not matter which wire goes to each terminal.

On a bike the spaded wire goes to the green wire coming from the center, rear fitting on the transmission.
Note: The black wire coming out of the back of the transmission is a ground.

ALTERNATOR

BOSS HOSS recommends using a one-wire alternator rather than the stock GM unit. The wiring harness will accommodate either the one-wire or the standard GM three-wire alternator.

On the Small Block ZZ4 model, a Gates 5330212 belt is used.
On the Big Block ZZ502 model, a Gates 5330216 belt is used.

Alternator Fig. 9.8

CAUTION

- If proper alternator belt tension is not maintained, the alternator may not supply sufficient voltage to the battery.
- Riding in wet conditions may magnify the effects of a loose belt. Keep belt TIGHT.

STARTER

Mini-Starter Fig.9-9

WARNING
Make sure the S-terminal does not touch the battery lead.

Note: Shims should not be needed on most applications. In some instances, shimming may be necessary for optimum engagement with the flex plate.

GAUGE PANEL

GENERAL

The gauges are mounted on a separate stamped mounting panel and include water temperature, oil pressure, speedometer, tachometer, voltmeter, and a separate indicator panel.

ASSEMBLY
Starting from left to right the water temperature, oil pressure, speedometer, tach, and voltmeter are mounted to the panel. The indicator panel is mounted under the speedometer. The gauges are secured in the panel using gauge brackets.

Gauge Panel Fig.9-10

1. Oil Pressure
2. Water Temperature
3. Fan On/Off Button
4. Right/Left Signal Lights
5. Neutral Light
6. Check Engine Light
7. Tachometer (RPM Gauge)
8. Voltmeter
9. Low Fuel Indicator
10. Fuel Gauge
11. Fan Indicator Light
12. High Beam Indicator

Note: The fan ON/OFF Button can be used to turn fan on manually (overriding the fan controller) if desired.

Note: The check engine light is only operational on the fuel injected models.

Bulb Chart

Description	Part Number
Headlight	Bulb H4 60/55W
Front Light Signal	Bulb 1007
Rear Light Signal	Bulb 1007
Taillight	Bulb1157
ZR-1 Kit Truck Trike Light	5720200-1
'39 Ford Lo-Boy Trike Light	5720220
Lens LED	5720221-1
License Lamp/Trike, Coupe, Truck	Bulb 168
57 – Taillight	LED Board 5220123

Chart 9.1

Note:

The wiring schematic for the main harness and for the dash harness is located in the pocket of owner manual folder.

SECTION NINE:

TRIKES

TRIKE SPECIFICATIONS

ZZ4 DIMENSIONS

Wheel base (front to rear).....81.5"
Vehicle width.....60"
Saddle height.....28.5"
Dry Weight.....1500 lbs
Engine.....GM V8
Horsepower 355

ZZ502/502 V8 DIMENSIONS

Wheel base (front to rear).....83.5
Vehicle width.....60"
Saddle height.....28.5"
Dry Weight.....1700 lbs.
Engine.....GM V8
Horsepower.....502

VEHICLE WEIGHT RATINGS (LBS)

The Gross Vehicle Weight Ratings (GVWR) and Gross Axle Weight Ratings (GAWR) are found on a label on the frame steering head.

		S.B.	B.B.
V8	GVWR	2093 lbs.	2293 lbs.
V8	GAWR (front)	665 lbs.	729 lbs.
V8	GAWR(rear)	1428 lbs.	1564 lbs.

CAPACITIES

Fuel tank (U.S. Gallons) 8.5
Cooling System (U.S. Quarts) SB 12; BB 14.5
Oil Pan (U.S. Quarts) 5
Auto Transmission (U.S. Quarts) Trike 8
Reserve Tank (U.S. Quarts) 3.5

CARGO (TRUNK) LOADING CAPACITY

Maximum Load* * 150 lbs.
* *DO NOT EXEED GVWR and/or GAWR

TORQUES

Front Axle .....50 ft-lbs.
Brake disc mounting (Frt.).....20 ft-lbs.
Caliper mounting bolts.....30 ft-lbs.
Caliper bracket bolts.....45 ft-lbs.
Fork brace pinch bolts.....40 ft-lbs.
Slider cap bolts.....50 ft-lbs.
Riser bolts.....45 ft-lbs.
Riser cap bolts.....15 ft-lbs.
Steering stem bolt.....55 ft-lbs.
Rear Sub frame mount bolts.....100 ft-lbs.
Rear Shock mounting bolts.....60 ft-lbs.
Rear wheel lug nuts .1/2-20.....80 ft-lbs.

BRAKES

Front

Rotor Diameter.....12.5 in
Minimum Rotor thickness. 0.177 in.(4.5mm)

Rear

Drum.....9.0 in.
Maximum drum diameter.....9.060 in.

TIRE DATA

Tire pressure	PSI (Cold)
Front	40
Rear	30

* * DO NOT EXEED GVWR * *

WHEEL	TIRE
Front...16" x 3.5"	MT90B16 (Avon)
Rear.... 15" x 10"*	275/60R15

* Rear wheel has a 6" offset from back

FUEL: 92 OCTANE IS RECOMMENDED

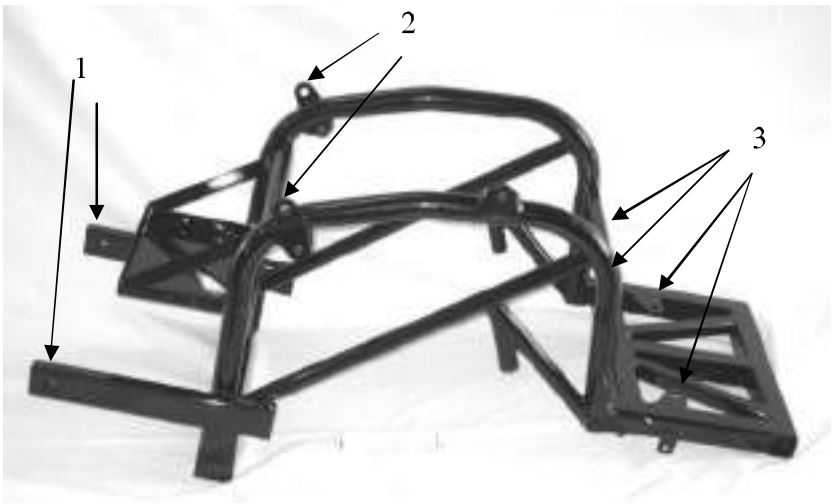
WARNING

DO NOT EXCEED LOAD LIMITS. Exceeding the designed Gross Vehicle Weight Rating (GVWR) and/or Gross Axle Weight Ratings (GAWR) may cause fatigue and/or structural failure to your vehicle, which could result in personal injury.

General

The Boss Hoss trikes consist of a rear sub-frame that connects to the motorcycle frame at the motorcycle swing arm pivot point (Fig. 8-1(1)) and upper shock mounting points (Fig. 8-1(2)). This sub-frame allows for the REMANUFACTURED narrowed Ford 7.5 inch rear axle assembly to be mounted and connected to the REMANUFACTURED GM 350 Hydromatic transmission. The fiberglass trike body is also secured to the trike sub-frame by six bolts on the tail section of the frame (Fig. 8-1(3)).

BOSS HOSS TRIKE CHASSIS:



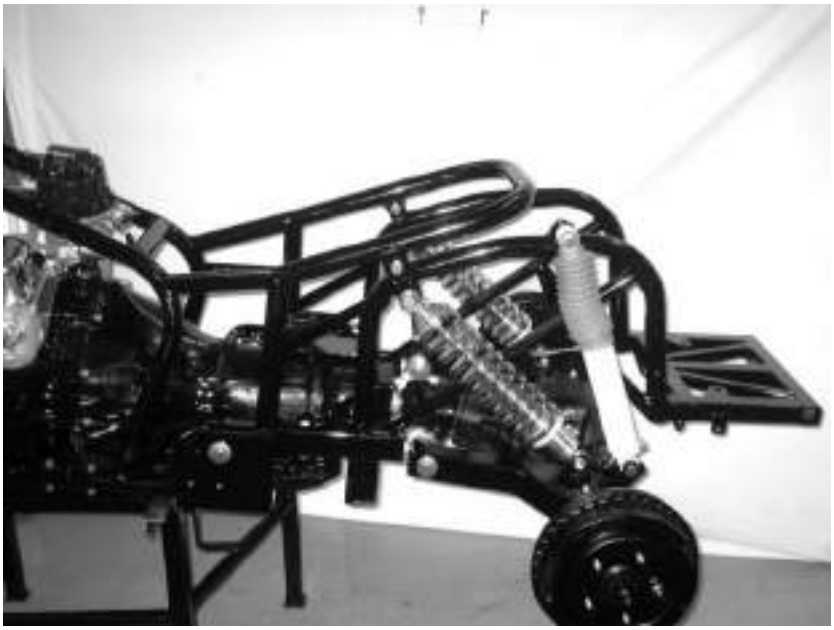
Trike Sub-frame Fig. 8-1

Rod End Joint Alignment Fig. 8-2

Rear Axle Assembly Attachment Fig. 8-3

The trike sub-frame and mainframe attach at the swing arm attachment location with a 1-3/4" spacer (on both sides) Fig. 8-3. The high strength alloy rod ends that are used to secure the rear axle assembly to the trike sub-frame must be properly aligned with the transmission to insure that the drive shaft yoke assemble will pivot properly.

WARNING
Improper alignment of the rear axle assembly can damage the drive train of the trike, which may result in serious personal injury. IT IS RECOMMENDED THAT ALL DRIVETRAIN SERVICE AND ALIGNMENT PROCEEDURES ARE CONDUCTED BY YOUR AUTHERIZED BOSS HOSS DEALER.



Trike Sub-frame and Rear Axle Assembly Fig. 8-4

Mounting of the fiberglass bodies requires mounting bolts through the floor of the trunk into the sub-frame and through the upright back of the trunk wall into the sub-frame (Fig. 8-1 (3)) and one on each side of the front through the front body mounting plates.

WARNING
Operation of Trike with any bolts missing may damage sub-frame and/or Trike body, which could result in personal injury.

Trike Electronic Speedometer

Drive yoke and Electronic Speedometer Sensor Fig. 8-5

The electronic speedometer pickup sensor is mounted from the rear axle housing and is positioned to read pulse produced by a sprocket attached to the pinion flange of the rear axle drive system.

Note: Clearance between sensor and sprocket is .004.

Note: Shield wire must be used for proper speedometer function.

Trike Brake System

General

The trike brake system implements the same front brake system as bikes. The details of this system are outlines in the Brake Section of this manual beginning on Page 31. The Trike rear brake pedal and rear master cylinder are also the same as the bike (See Brake section beginning on page 31).

Unlike the rear disc system on the bike, your trike utilizes a nine (9) inch drum brake system, with a self adjusting brake system.

9" Rear Drum Brake Assembly **Fig. 8-6**

Automatic Brake Adjusters

The rear brakes on your trike are self-adjusting, designed to eliminate periodic manual brake adjustments. Drum brake adjustment is made automatically as the rear brakes are applied while the car is moving backwards. If excess brake pedal travel develops, drive alternately backward and forward several times and apply the rear brakes firmly in each direction. If normal brake pedal travel and performance is not restored, or if there is a rapid increase in pedal travel, which could be sign of other brake trouble, contact your Boss Hoss Dealer IMMEDIATELY.

Warning

Operating your vehicle with improper braking functions can result in serious injury personal injury or death.

Trike Fuse Panel Fig. 8-7

The electrical fuse panel for the trike is located in the center of the vehicle underneath the rider's seat. To access the fuse panel the seat must be removed. There is one 5/16" button head bolt located at the center-rear section of the seat pan that holds the seat into position. Extracting this bolt will allow you to remove the seat and access the fuse panel.

Detent cable mount (Kick-down cable) Fig. 8-8

The detent cable is the device that automatically down shifts the transmission to a lower gear during acceleration (i.e. passing a vehicle / climbing an incline).

Fuel System

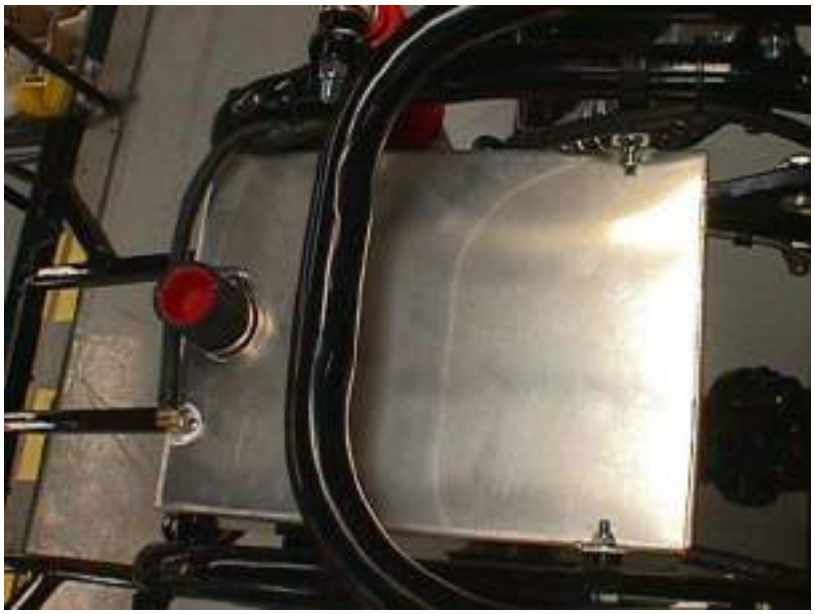
Selector Valve Fig.8-9

Selector Switch Fig. 8-10

The fuel selector valve is mounted on the battery box (Fig. 8-9), which is located under the rider's seat.

The rocker switch that operates the fuel selector is located just above the ignition switch (Fig.8-10).

The normal operating position of this switch would be pressed forward which allows use of the main fuel tank. When pressed backward, the switch will illuminate as an indicator that the reserve tank has been selected.



TRIKE RESERVE TANK Fig. (8-11)

On all trikes, the reserve tank mounts on the trike sub frame (Fig. 8-11).

Reserve Fuel Tank Filler Cap Fig. 8-12

On the truck, '57 and coupe trike, the fuel filler is permanently mounted externally on the right side of the body. The filler hose assembly consists of a 3 inch piece of hose attaching the tank to a 90 degree elbow. The elbow then is attached to a hose that connects the second 90 degree elbow which is turned upward. The second elbow is then connected to the cap by another 3 inch piece of hose. (See Fig. 8-12)

Trike Shifter

The Boss Hoss uses the B&M Quicksilver Shifter, # 80683.
On all trikes, the shifter is mounted permanent on the left front body mount.

Trike Shifter- Fig. 8-13

Operation of Shifter

The stick travels in a direct line forward and backwards from Park, Reverse, Neutral, Drive, Second, and Low. The shifter stick must be raised to clear the stop gates when going through the gear positions.

Park: To put in park, put the shifter stick into the Drive location and then lift the stick all the way and push the stick all the way forward to the Park location. Release the stick and the shifter is locked in Park. To put in any other gear position you must raise the stick to clear the stop gates.

Reverse: Raise the stick to clear the stop and move the stick to the Reverse location.

Neutral: Move the stick to Neutral. You do not have to raise the stick unless you are in Park.

Drive: Move the stick to Drive. You do not have to raise the stick unless you are in Park.

Second and Low: These gears should never be selected. If the Trike is operated in these gears, the desired RPM range will be exceeded and it will overheat the fluid and discharge it from the vent tube.

CAUTION

Manually operating the vehicle in Second or Low gear could damage the engine and/or transmission.

Mount cable bracket in the center two bolts of transmission pan on left side (Refer to figure 8-14). Loop cable under the battery tray and mount cable from the rear pointing forward. When installing left exhaust pipe, maintain maximum clearance between pipe and shift arm.

Shifter Connection Fig. 8-14

Cable Adjustment

The cable attachment tab must be bolted to the outside surface of the shifter base. Move the transmission selector lever by hand to the full rear position (Low). Shift the shifter mechanism to the Low gear position (ratcheted all the way back). Adjust the large nuts on the cable so that the swivel will slide into the hole on the selector lever. Tighten the large nuts completely. Be sure that the swivel will slide freely in and out of the hole in the selector lever. Leave the swivel out of the hole and move the transmission selector lever to Park, all the way forward. Also move the shifter to Park position. Reinsert the swivel into the hole in the selector lever. Check to see that the swivel will slide freely in and out of the hole in the selector lever in this position. If it does not slip in freely, adjust the swivel slightly until it will slip into the hole in the lever. Move the shifter back to Low gear position and check that the swivel will still slide easily in and out of the hole in the selector lever. (If you do not use the hole in the lever, it will be impossible to correctly adjust the cable.) Operate the shifter through all the gear positions. Check to make sure the swivel will slide in and out of the selector hole in each gear position. The shift cable is now correctly adjusted. Install the cotter key into the swivel and spread the key ends.

CAUTION

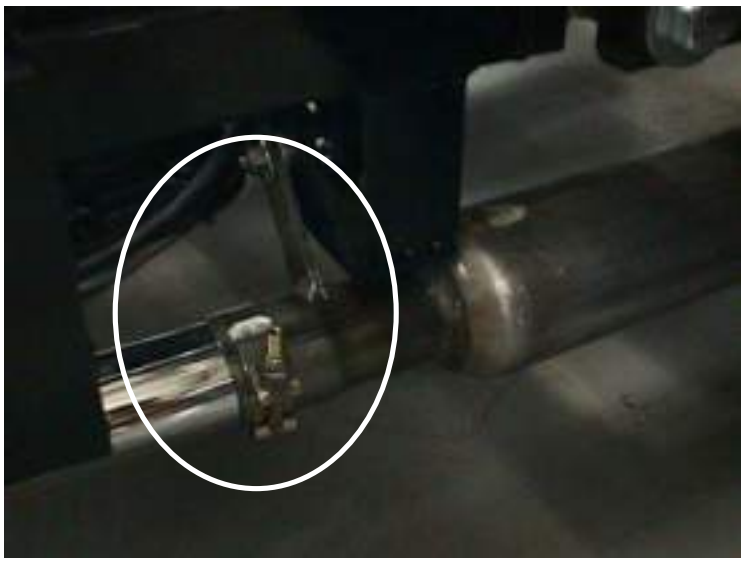
If you have a problem, DO NOT FORCE THE SHIFTER, this will damage the cable, the shifter or he transmission. Simply start at the beginning and carefully check all your steps.

Warning
If you don't adjust the cable correctly, you will destroy the cable, shifter and/or transmission in as little as one shift.

Warning
Route the cable avoiding exhaust pipes and sharp bends that will kink and damage the cable. If the cable is close to the exhaust it will melt or become brittle. Do not wrap the cable this retains heat. Heat will destroy the cable. Cable should be kept straight for two inches on each end where it leaves the brass.

Neutral Safety Switch
The neutral safety switch (the lower switch) on the shifter should operate ONLY in Neutral and Park. It is located on the rear, outside of the shifter base. Check the switch operation by sitting on the Trike, locating the On/Off switch to OFF and applying both front and rear brakes. With switch in the OFF position and both brakes applied, attempt to start the engine in each shifter position. The starter must engage **only** when the shifter is in the Park or Neutral position.

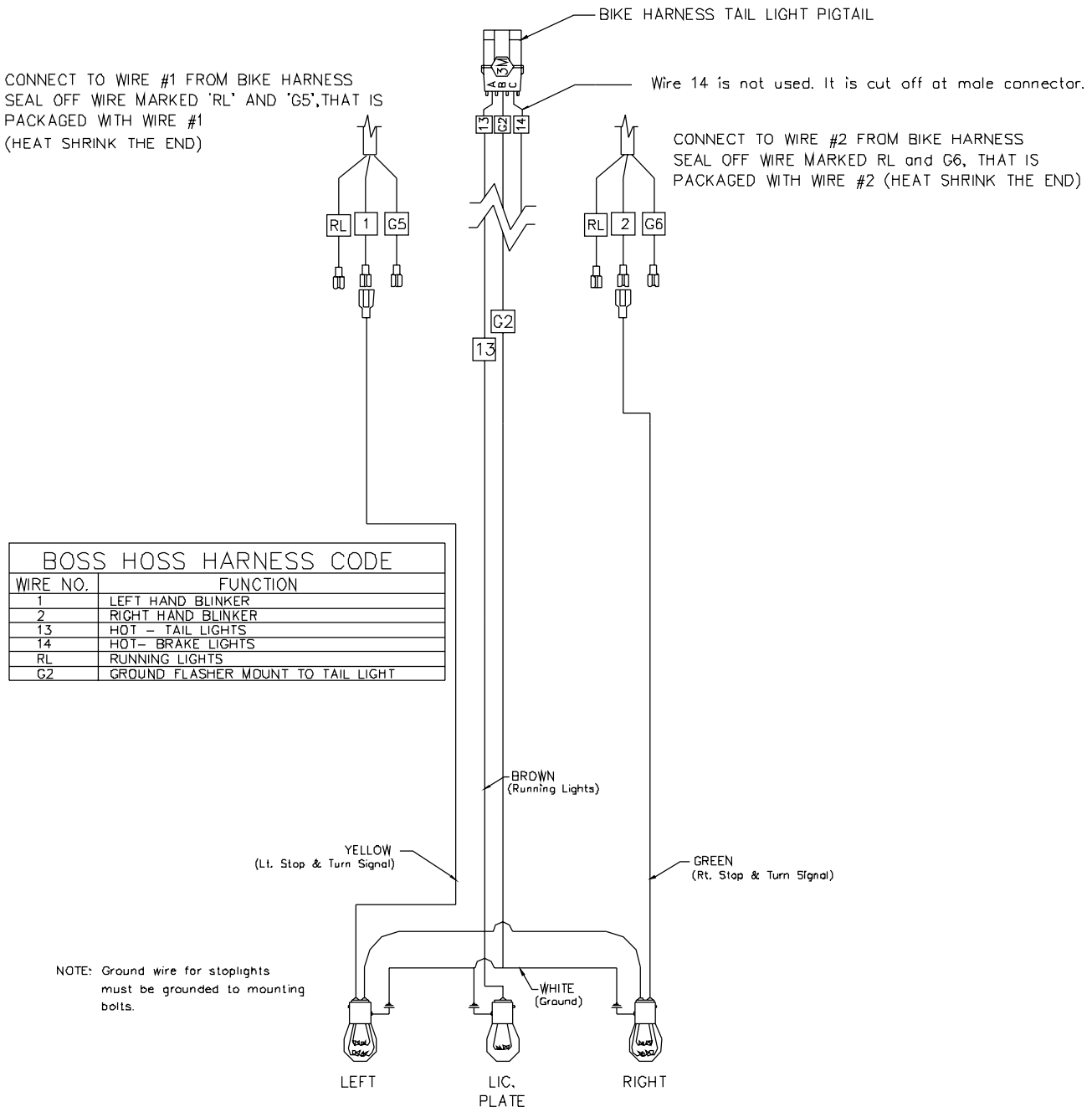
Trike Exhaust



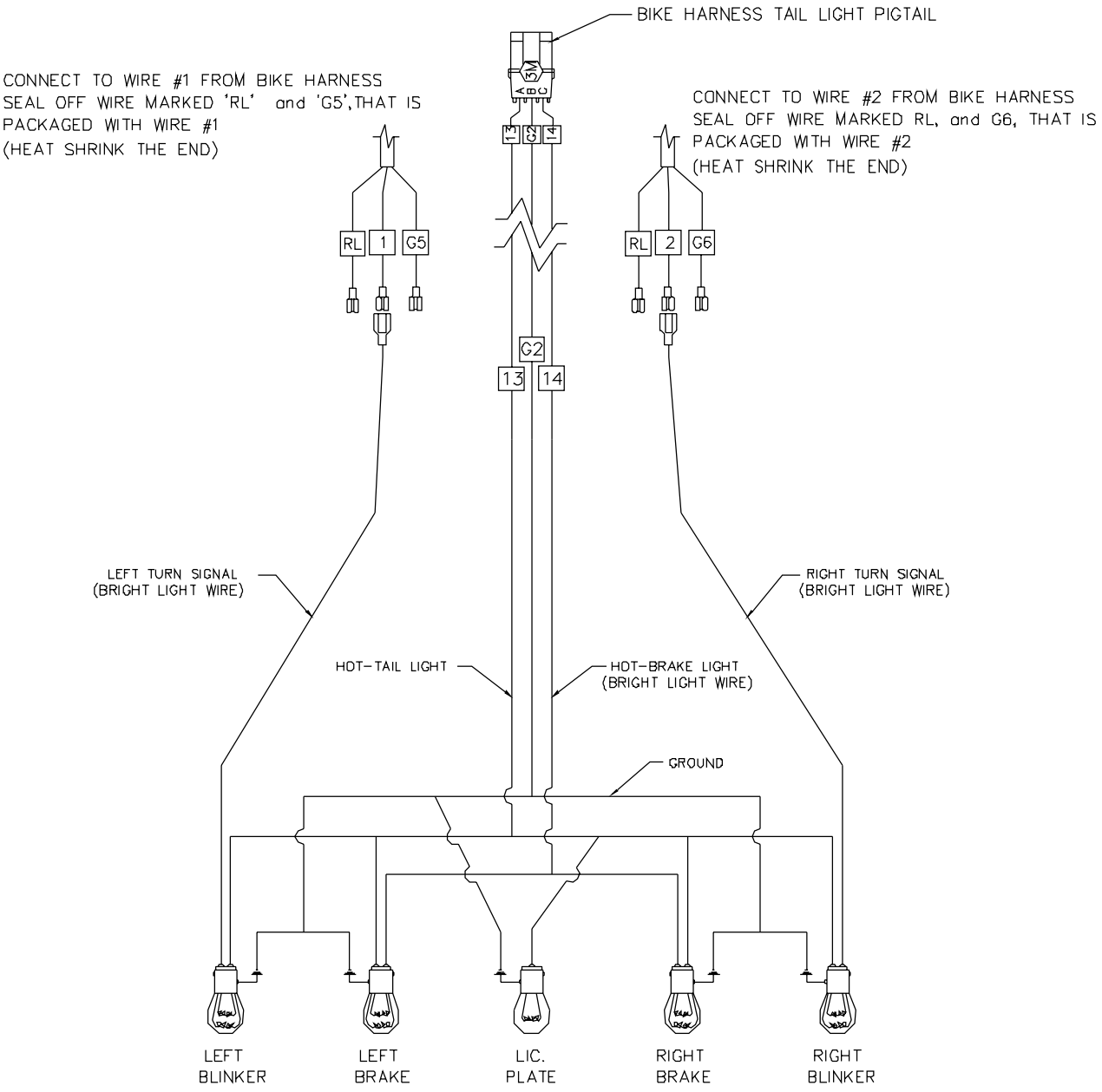
Exhaust Mount **Fig. 8-15**

This is the rear exhaust pipe clamp. It bolts through a welded on pipe bracket onto the sub-frame. Shim attachment (with washers) as needed to allow tailpipe to retain appropriate clearances and align with body.

TAILLIGHT WIRING DIAGRAM FOR '57 AND '32 MODEL TRIKE
(Any two taillight TRIKE system)



TAILLIGHT WIRING DIAGRAM FOR PICKUP MODEL TRIKE
(Any four taillight TRIKE system)



SECTION TEN:

Troubleshooting

TROUBLESHOOTING

GENERAL

Proper care of your bike or trike including following the regular service interval charts listed in the owner's manual is a must for keeping the bike in a good running condition.

WARNING
The troubleshooting section of this Owner's Manual is intended solely as a guide to diagnosing problems. Repairs and maintenance operations for your bike or trike should be performed only by a Boss Hoss Cycles, Inc. dealer.

ENGINE

Starter Does Not Turn Engine Over

1. The kill button has been engaged check light on the right handlebar control.
2. Ignition key not "ON."
3. Battery maybe discharged, loose, or have corroded connections.

Engine Will Turn Over But Does Not Start

1. Check fuel.
2. Fuel valve maybe in "Off" position.
3. A fuel line disconnected.
4. Fuel valve or filter clogged.
5. Have a bad battery connection or a discharged battery.
6. Fouled spark plugs.
7. Spark plug cables have bad connection.
8. Loose or corroded wire or cable connection at battery.
9. Fuel pump inoperative.
10. Engine maybe flood.

Hard to Start

1. Spark plugs in bad condition or are fouled.
2. Spark plug cables in bad condition.
3. Battery not properly charged.
4. Check connections to battery and coil.
5. Carburetor not adjusted correctly.
6. Fuel tank vent maybe plugged or closed off.
7. Water or dirt in fuel system (bad gas).
8. Ignition timing off.

Run Irregularly

1. Check condition of spark plugs.
2. Spark plug cables in bad condition.

3. Spark plug gap not right.
4. Battery does not have correct charge.
5. Battery has loose or corroded connection.
6. Short circuit in wires.
7. Water or dirt in fuel system (bad gas).
8. Fuel vent system plugged.
9. Injectors fouled.

Overheats

1. Heavy carbon deposit from "lugging" engine.
2. Water pump not working properly.
3. Stat switch not working properly.
4. Fan switch not working properly.
5. Timing, ignition off.

Excessive Vibration

1. Engine mounts loose.
2. Engine to transmission mounting bolts loose.
3. Wheels or tires damaged or not balanced.
4. Vehicle not properly aligned.

LUBRICATION SYSTEM

Oil Does Not Return to Oil Tank

1. Restricted oil lines or fittings.
2. Restricted oil filter.

Engine Leaks Oil

1. Loose parts.
2. Imperfect seal at gaskets, washers, etc.

ELECTRICAL SYSTEM

Alternator Does Not Charge

1. Engine ground wire loose or broken.
2. Loose or broken wires in charging circuit.

Alternator Charge Rate is Below Normal

1. Weak battery.
2. Excessive use of add-on accessories.
3. Loose or corroded connections.

CARBURETOR

Carburetor Floods

1. Pumping of the throttle grip.

TRANSMISSION

Transmission Shifts Hard

1. Bent shifter rod.
2. Transmission shifting mechanism needs adjustment.

Transmission not Down Shifting (Trike)

1. Detent cable broke or not adjusted properly.

BRAKE

Brakes Do Not Hold Normal

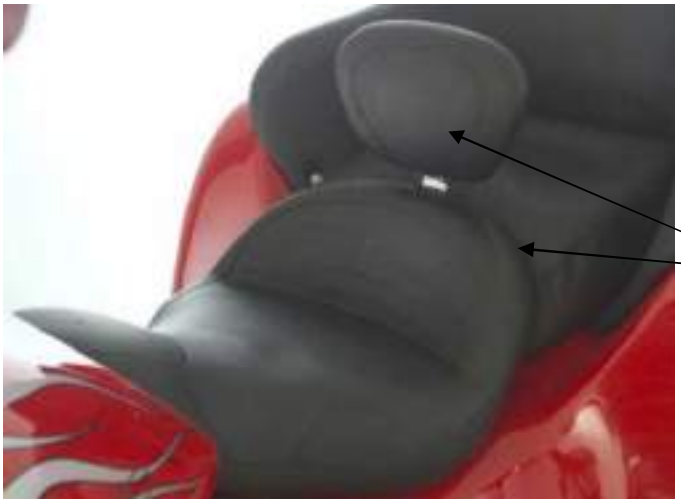
1. Master cylinder low on fluid.
2. Brake line contains air bubbles.
3. Master of wheel cylinder piston worn.
4. Brake pads contaminated with grease or oil.
5. Brake pads badly worn (check owner's manual under Brake Disc).
6. Brake disc badly worn or warped.
7. Brake fades because of heat build up. Excessive braking or brake pads dragging.
8. Brake drags. Insufficient hand lever free play.

SECTION ELEVEN

Accessories

Mustang Seats

TRIKE



Mustang Touring Seat with Driver Backrest

Touring Passenger Backrest

BIKE

Mustang Touring Seat

Mustang Rider Backrest and Wide Passenger Seat

Windshields

Front View of Fairing

Back View of Fairing

Front View of the Quick Release Windshield

Back Left View of Quick Release Windshield

Other Accessories

Gas Cap Covers
"Boss" "Hoss"

V-8 Taillight Grill

2" Pull Back Risers Assembly

Highway Pegs with 'Kuryakin' Mounts

Mustang Sissy Bar Assembly

Rear Fender Luggage Rack
(Sissy Bar Required)

Hard Saddlebags