

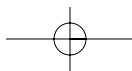
## CONGRATULATIONS!

### **Welcome to the American IronHorse® Family**

The American IronHorse motorcycle you have just purchased utilizes the latest technology and the highest quality components. It is a motorcycle that strains at the chains of the past and dares to race into the future. Our motorcycles are not for everyone. They are for only the select, free-spirited souls like you. Your American IronHorse was built with great care for your enjoyment. To ensure that your American IronHorse performs to its capabilities and to advise you of safety issues, please read this manual in its entirety before riding your American IronHorse motorcycle.

This manual provides operating, safety and maintenance information on the American IronHorse Slammer, SZ\*. Following the recommended inspection and maintenance procedures will ensure that your American IronHorse is in optimum condition for your comfort, pleasure and safety. All inspections and maintenance should be performed by an experienced professional technician to ensure the highest standards of care.

\*This manual covers the 2007 Slammer model of American IronHorse motorcycles with standard and optional equipment. Consult your local American IronHorse dealer with any additional questions.



## AMERICAN IRONHORSE VEHICLE INFORMATION

Dealer Name \_\_\_\_\_ Motor Serial No. \_\_\_\_\_

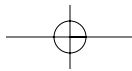
Number \_\_\_\_\_ Trans. Serial No. \_\_\_\_\_

Address \_\_\_\_\_ Ignition Key No. \_\_\_\_\_

\_\_\_\_\_

Phone Number \_\_\_\_\_

FAX Number \_\_\_\_\_



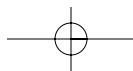
## IMPORTANT NOTICE

Printed typeface in this manual is designed to highlight certain sections, paragraphs, sentences or phrases. Please take special note of the following key:

**DANGER: BOLD CAPITALS CONTAINED IN A BOX INDICATE THAT THE SUBJECT IS ONE THAT COULD POSSIBLY LEAD TO PERSONAL BODILY INJURY TO THE RIDER, PASSENGERS OR OTHERS.**

**WARNING: BOLD PRINT IN CAPITAL LETTERS INDICATES THAT THE SUBJECT IS ONE THAT COULD POSSIBLY LEAD TO DAMAGE TO THE MOTORCYCLE.**

*CAUTION: Italic print indicates other important matters.*



## TABLE OF CONTENTS

Section No.	Page No.		Page No.
		American IronHorse Vehicle Information .....	2
1-1		Safety .....	6
1-2		Vehicle Specifications .....	10
	a)	Dimensions .....	10
	b)	Weight .....	10
	c)	Fluid Capacities .....	10
	d)	Engine Specifications .....	11
	e)	Transmission Specifications .....	11
	f)	Drive Train Specifications .....	11
	g)	Electrical Specifications .....	12
	h)	Tire Specifications .....	13
	i)	Brake Specifications .....	14
	j)	Fueling & Fuel Specifications .....	14
1-3		Engine Break-In Period .....	15
<b>Operation: Features, Controls &amp; Indicators</b>			
2-1		Ignition Switch .....	16
2-2		Engine Throttle/Speed Controls .....	17
2-3		Fuel/Air Mixture Lever .....	18
2-4		Starting and Stopping Engine .....	19
2-5		Clutch and Gear Shifting .....	22
2-6		Braking Systems .....	28
2-7		Turn Signal Indicators & Hazard Function .....	29
2-8		Digital Information Center Indicator Lights .....	30
2-9		Digital Information Center .....	31
2-10	a)	Headlight Switch & High Beam Activation .....	33
	b)	Horn Switch .....	33
2-11		Kick (Jiffy) Stand .....	34
2-12		Rear/Side View Mirrors .....	35
2-13		Securing Your Motorcycle .....	36
2-14		Vehicle Gasoline Tank .....	37
2-15	a)	Shock Absorbers .....	39
	b)	Vehicle Loading & Accessories .....	39
2-16		Air Ride Suspension .....	40
<b>Recommended Inspection &amp; Maintenance Procedures</b>			
3-1	a)	Introduction .....	42
	b)	Theory of Maintenance .....	42
3-2		Rider Checks and Procedures .....	43
3-3		Professional Technician Inspections & Maintenance Procedures .....	44
	a)	Engine Systems .....	45
	b)	Electrical Systems .....	45
	c)	Drive Train Systems .....	45
	d)	Fuel, Ignition and Throttle Systems .....	46
	e)	Braking Systems .....	46
	f)	Wheels and Tires .....	47
	g)	Suspension System .....	47
	h)	Other Inspections .....	47
3-4	a)	Road Testing .....	48
	b)	Washing Motorcycle .....	48
<b>Detailed Maintenance Procedures</b>			
4-1		Engine Lubrication .....	49
4-2		Checking and Adding Engine Oil .....	50
4-3		Changing Engine Oil and Oil Filter .....	51
4-4		Transmission Lubrication .....	52
4-5		Primary and Rear Drive Belt .....	54
4-6		Clutch System .....	55
4-7		Brake System .....	56
4-8		Tires .....	57

**TABLE OF CONTENTS (CONTINUED)**

**Detailed Maintenance Procedures (continued)**

4-9 a) Bearing Maintenance .....59  
 b) Shock Absorbers .....59  
 4-10 a) Spark Plugs.....60  
 b) Ignition System.....60  
 4-11 Battery .....61  
 4-12 a) Voltage Regulator and Alternator .....64  
 b) Circuit Breakers.....64  
 4-13 Vehicle Lights .....65  
 4-14 Hydraulic Tappets .....66  
 4-15 Motorcycle Lubrication .....67  
 4-16 Motorcycle Maintenance.....68

**Mechanical Specifications**

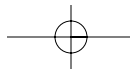
5-1 American IronHorse Consumable Table .....69

**Important Notices**

6-1 a) Reporting of Safety Defects .....71  
 b) Noise Emission Warranty .....71  
 6-2 Tampering .....72  
 6-3 Emission Control System Warranty.....74  
 6-4 Limited Warranty on  
 Emission Control System .....75  
 I. Coverage .....75  
 II. Limitations.....76  
 III. Limited Liability.....77  
 IV. Legal Rights .....77  
 V. & VI. Additional Information.....78  
 6-5 Limited Warranty .....79

**Figures**

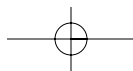
Figure 1 .....85  
 Figure 2 .....86  
 Figure 3 .....87  
 Figure 4 .....88  
 Figure 5 .....89  
 Figure 6.1.....90  
 Figure 6.2.....92  
 Figure 6.3.....92  
 Figure 6.4.....93  
 Figure 7 .....94  
 Figure 8.1.....95  
 Figure 8.2.....95  
 Figure 8.3.....96  
 Figure 9 .....98  
 Figure 10 .....99  
 Figure 11 .....1008  
 Figure 12.1.....101  
 Figure 12.2 .....101  
 Figure 13.1 .....1021  
 Figure 13.2 .....102  
 Figure 14.....103  
 Maintenance Records.....104



## 1-1 SAFETY

Literally millions of people worldwide ride motorcycles daily for transportation, work and pleasure. At the same time, tens of thousands of accidents occur, many avoidable. As a motorcyclist, you have taken on additional responsibilities to yourself and others to ride safely. Here is a safety checklist to review as you enjoy your American IronHorse motorcycle:

- If you are an inexperienced operator, it is recommended that you take a formal motorcycle safety riding course. If you are an experienced rider but have not taken a riding course in a long time, consider taking a refresher motorcycle safety riding course as well.
- Be aware of the fact that as a responsible rider, you must always know the condition of your vehicle, especially the condition of those systems that directly affect bike safety.
- Read this manual in its entirety **before** riding your American IronHorse. Follow all of the recommendations, warnings and caution information.
- Find a professionally trained, experienced technician with whom you can develop confidence and who can come to know your vehicle's operation over time.
- Ensure that all the recommended inspection and maintenance procedures in this manual are strictly followed within the prescribed time intervals.
- Stay acutely aware of road and ambient conditions. Motorcycles – having only two wheels – are not as stable as four-wheeled vehicles. Consequently, wet or slippery road surfaces, wind, rough pavement, high speeds, oncoming traffic, foreign material on pavement and similar conditions increase the risk to a rider's control of the vehicle and may possibly result in personal injury.
- Always wear a DOT approved helmet when riding. Avoid wearing loose-fitting or flowing garments that can interfere with the safe operation of your vehicle. Always wear appropriate eyewear and footwear.
- Always follow the posted speed limits and make appropriate reductions in speed consistent with deteriorating road conditions, traffic, ambient conditions and similar safety factors.



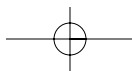
**• REMEMBER THAT THE INCIDENCE OF HAVING A MOTORCYCLE MISHAP GENERALLY INCREASES WITH VEHICLE SPEED.**

- Before starting your engine and setting off on a ride, always visually and manually check the condition of your vehicle especially the condition of tires, brakes, throttle, clutch, vehicle indicator lights, headlamp, signal and brake lamps and turning radius freedom, to ensure proper operation.
- Gasoline and battery gases are extremely volatile. Pay special attention to the sections of this manual dealing with those two important subjects.

**• NEVER OPERATE YOUR ENGINE IN AN ENCLOSED SPACE AS THE CARBON MONOXIDE GAS FOUND IN YOUR VEHICLE'S EXHAUST FUMES IS EXTREMELY DANGEROUS, EVEN DEADLY, IF INHALED.**

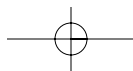
- Always ride your motorcycle defensively. Remember, as a rider, you are the most vulnerable vehicle operator on the road with little or no bodily protection in the event of an accident. Always operate under the premise that the "other guy" will act in a way that will increase your risk of being involved in an accident. Remember, as a motorcyclist, you are often not seen by other vehicle operators. Take particular care with motorists making turns into your oncoming traffic lanes. Always operate with your headlight on, day or night, to help increase your visibility to other vehicle operators.

**• NEVER OPERATE YOUR VEHICLE WITH LESS THAN 100% CONTROL OF ALL OF YOUR FACULTIES. OPERATING UNDER THE INFLUENCE OF ALCOHOL, DRUGS, FATIGUE OR OTHER SUCH CONDITIONS ATLY**



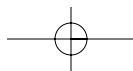
## 1-1 SAFETY

- **DO NOT OVERLOAD YOUR VEHICLE WITH WEIGHT. SEE THE MAXIMUM ALLOWABLE GROSS VEHICLE WEIGHT RATING ON PAGE 10 IN THIS MANUAL AND DO NOT EXCEED IT. OVERLOADING OR UNBALANCED LOADING CAN LEAD TO VEHICLE INSTABILITY AND MAY RESULT IN PERSONAL INJURY. NEVER TOW A TRAILER OR OTHER VEHICLE.**
  - Similarly, a disabled motorcycle should never be towed by another vehicle. Towing forces create an unstable condition that could lead to personal injury. Never add a sidecar to your American IronHorse vehicle. It is not designed or constructed for such use.
  - The vehicle's exhaust system becomes very hot from normal operation. Always wear appropriate clothing to prevent direct skin contact with exhaust pipes and mufflers. Never touch exhaust system components until they have had 25 minutes or more to cool down after shutting down your engine.
- NEVER LET OTHER INDIVIDUALS OPERATE YOUR VEHICLE UNLESS YOU ARE CERTAIN OF THEIR RIDING SKILLS AND THEIR FAMILIARITY WITH YOUR AMERICAN IRONHORSE VEHICLE. YOUR BIKE MAY OPERATE DIFFERENTLY FROM THOSE VEHICLES WITH WHICH THEY MAY BE FAMILIAR.**
- Always secure your vehicle when left unattended by locking the rotor with a rotor lock and removing the ignition key. This will help prevent unauthorized use or theft.
  - When your vehicle will not be in use, fuel will be shut off by the pump to prevent accidental gasoline spillage.
  - Pay particular attention to the traction, steering components and systems of your vehicle. Tires should be continuously monitored for correct inflation pressure, tread wear condition, cuts and abrasions. Steering and vehicle suspension systems should not exhibit excessive play under operation. Such conditions can lead to vehicle instability and result in possible personal injury. The condition of shock absorbing components such as





front forks and shock absorbers should be monitored for function and possible leaks. The presence or suspicion of the presence of any of these conditions should lead to immediate consultation with a professionally trained technician.



**1-2 AMERICAN IRONHORSE VEHICLE SPECIFICATIONS****A. Dimensions: (inches)**

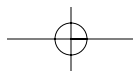
	Slammer
Wheel Base	85
Overall Length	102
Overall Width	35.25
Overall Height	52.75
Ground Clearance	5
Seat Height	25.75

**B. Weight: (pounds)**

	Slammer
Weight	742
GVWR	1200
GAWR - Front	490
GAWR - Rear	710

**C. Fluid Capacities:**

Fuel Tank Capacity	4 gal
Transmission	24 oz
Primary	Fill to bottom of clutch diaphragm spring
Oil Reservoir w/Filter	98 oz
Front Forks (each)	12 oz



## AMERICAN IRONHORSE VEHICLE SPECIFICATIONS 1-2

### D. Engine Specifications:

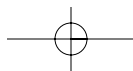
	111 cu in	117 cu in	124 cu in
Number of Cylinders	2	2	2
Design	4 cycle, V-twin	4 cycle, V-twin	4 cycle, V-twin
Compression Ratio	9.5 : 1	10.2 : 1	9.5 : 1
Bore	4 1/8"	4 1/8"	4 1/8"
Stroke	4 1/8"	4 3/8"	4 5/8"
Volume Displacement:			
Cubic Inches	111	117	124
Cubic Centimeters	1820	1919	2034

### E. Transmission Specifications: **Right-side Drive**

Number of Forward Speeds	6
Type	Constant Mesh

### F. Drive Train Specifications:

Number of Teeth:	
Engine	25
Clutch	36
Transmission	32
Rear Wheel	70



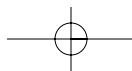
## 1-2 AMERICAN IRONHORSE VEHICLE SPECIFICATIONS

### Driving Gear Ratios (standard):

1st Gear	2.94 : 1.00
2nd Gear	2.21 : 1.00
3rd Gear	1.60 : 1.00
4th Gear	1.23 : 1.00
5th Gear	1.00 : 1.00
6th Gear	1.00 : 0.86

### G. Electrical Specifications:

	111 cu in	117 cu in	124 cu in
Battery	12 volt negative ground	12 volt negative ground	12 volt negative ground
Spark Plug	NGK	NGK	NGK
Type	DCPR7E	DCPR7E	DCPR7E
Gap	0.040"	0.040"	0.040"
Size Thread	10 mm	10 mm	10 mm



## AMERICAN IRONHORSE VEHICLE SPECIFICATIONS

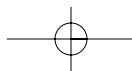
1-2

**H. Tire Specifications:**

	Tire Size	Wheel Size
<b>Front</b>	90/120-21	21" x 2.50"
<b>Rear</b>	300/35VR-18	18" x 10.5"

**SAFETY.**

- **USE ONLY TIRES MEETING AMERICAN IRONHORSE SPECIFICATIONS AS OUTLINED IN THE "AMERICAN IRONHORSE CONSUMABLE TABLE." NEVER MISMATCH TIRES, TUBES, RIMS OR AIR VALVES - THIS COULD RESULT IN TIRE FAILURE.**
- **ALWAYS USE TUBED TYPE TIRES WITH WIRE SPOKE WHEELS AND TUBELESS TYPE TIRES WITH CAST, DISC OR BILLET WHEELS. IN ADDITION, PROTECTIVE RUBBER RIM LINERS MUST ALWAYS BE EMPLOYED WITH WIRE SPOKE WHEELS.**
- **NEVER SWAP FRONT AND REAR TIRES. THEY ARE NOT INTERCHANGEABLE AND CAN LEAD TO VEHICLE INSTABILITY IN USE.**
- **NEVER EXCEED MAXIMUM INFLATION PRESSURE AS INDICATED ON TIRE SIDEWALL.**
- **NEVER INSTALL A NEW WHEEL/TIRE ASSEMBLY WITHOUT PROPER BALANCING.**



## 1-2 AMERICAN IRONHORSE VEHICLE SPECIFICATIONS

### I. Brake Specifications:

	Rotor Diameter	Calipers	# Pistons
<b>Front</b>	11.5" or AIH equivalent	2	12
<b>Rear</b>	11.5" or AIH equivalent	1	6

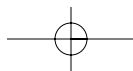
### J. Fueling & Fuel Specifications:

Always use a high quality, high octane unleaded fuel. Minimum octane should be 91 to ensure maximum engine performance.

- **ALWAYS REMOVE GAS TANK CAP SLOWLY. PRESSURE BUILD-UP IN FUEL TANK CAN CAUSE GASOLINE FLUID AND MIST TO CONTACT PERSON REFUELING.**
- **ALWAYS FILL TANK SLOWLY AND LEAVE THE TANK NECK SPOUT VOID AS FUEL EXPANDS WITH AMBIENT AND OPERATING TEMPERATURE INCREASES.**
- **ALWAYS ENSURE THAT GAS TANK CAP IS SECURELY TIGHTENED AFTER REFUELING, TAKING SPECIAL CARE NOT TO CROSS THREAD.**

#### WARNING:

- **GASOLINE WITH FUEL ADDITIVES MAY CAUSE DAMAGE TO VEHICLE PARTS.**
- **GASOLINE SPILLS CAN DISCOLOR VEHICLE PAINT AND FINISHES.**
- **GASOLINE WITH METHANOL ADDITIVES SHOULD NOT BE USED.**



### **The Critical First 500 Miles**

Your American IronHorse motorcycle has been operated on a ride-out dynamometer by a trained American IronHorse technician prior to shipment. Besides initiating the critical engine “break-in” period, a check of proper in-use systems operations has been conducted.

It is critical that you complete the critical engine “break-in” period. (Improper engine break-in may dramatically decrease engine life and will also void your American IronHorse limited warranty.)

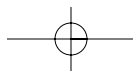
#### **First 500 Miles:**

- Do not over-rev the engine during break-in period.
- Never rev the engine in neutral gear.
- Avoid running engine in 4th, 5th or 6th gear at very low rpm.
- Never hold engine speed constant for long periods of time; vary the speed frequently.
- Avoid “jackrabbit” starts or racing from a standstill with engine throttle wide open.
- Change oil and filter.

#### **First 2000 Miles:**

- Avoid engine overheating.
- Keep speed at or below 65 mph.
- Vary engine speed.
- Change oil and filter.

**Over 4000 Miles: HAVE FUN AND RIDE SAFELY!**



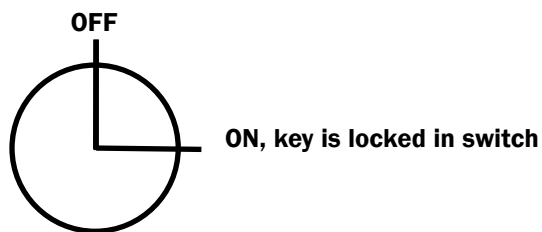
## 2-1 IGNITION SWITCH

A key controls access to the ignition switch. Always remove the ignition switch key when the vehicle is not in use. The ignition switch is wired to activate the headlight.

**DO NOT MODIFY THE IGNITION SWITCH TO BYPASS THIS FEATURE. ALWAYS OPERATE YOUR AMERICAN IRONHORSE WITH THE HEADLIGHT ON TO IMPROVE YOUR VISIBILITY TO OTHERS FOR IMPROVED SAFETY.**

The ignition switch has two operative positions as wired from the factory (Figures 1 and 14). The OFF/LOCK mode is located approximately at the 12 o'clock position. The switch mechanism is activated by inserting the key into the ignition key slot and turning the switch mechanism straight up and down and parallel to the bike frame.

To reach the ON position, rotate the ignition switch to approximately the three o'clock position. The headlight will come on when the switch has been positioned in the ON position. THERE IS NO IGNITION ON/HEADLIGHT OFF POSITION.





## ENGINE THROTTLE/SPEED CONTROLS 2-2

Engine speed is controlled by the Engine Throttle Control Grip.

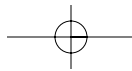
- Turn the Engine Throttle Control Grip counterclockwise (toward the operator) to increase engine speed (Figures **8.1** and **8.3**).
- Turn the Engine Throttle Control Grip clockwise (away from operator) to reduce engine speed.

Engine Throttle Tension Adjustment Screw is a throttle lock, i.e. cruise control (Figure **8.2**).

CAUTION: The Engine Throttle Tension Adjustment Screw **locks** the throttle.

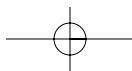
Unscrew the Engine Throttle Tension Adjustment Screw such that the throttle control returns to the idle position when the operator's hand is removed. This is the normal operating tension for the throttle control grip.

The Engine Throttle Tension Adjustment Screw may be screwed in from the normal operating tension to reduce the continuous grip pressure that the operator must apply to keep the Engine Throttle Control Grip activated. This will reduce operator fatigue on long highway trips.



## 2-3 FUEL/AIR MIXTURE

Your American IronHorse Slammer is equipped with a closed loop EFI system and has a preset air /fuel mixture. This is a non adjustable system that is self learning. Air/fuel mixtures are automatically changed when the system senses a change in riding conditions.



## STARTING AND STOPPING ENGINE 2-4

To facilitate an easy start of the vehicle's engine, the following throttle control sequence is recommended. Always ensure transmission is in the NEUTRAL position. Your American IronHorse motorcycle comes equipped with an American IronHorse closed loop EFI system. Please follow these appropriate starting instructions:

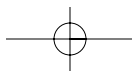
**A.**

- Turn ignition ON. DO NOT twist the throttle.

**NOTE:**

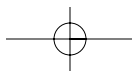
When ignition is turned ON, a slight humming noise can be heard. This is the fuel pump pressurizing the fuel lines with fuel. After turning ignition on wait approximately 5 seconds to start motorcycle.

- Start engine.
- Twist throttle control grip as required to keep engine running.
- Let engine idle to warm to operating temperature.



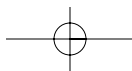
## 2-4 STARTING AND STOPPING ENGINE

- B.** FOR WARMER WEATHER (above 55°F) AND COOL ENGINE:  
Use similar procedures as indicated in the preceding paragraph (A).
- C.** FOR ENGINE ALREADY WARM OR HOT FROM RECENT USE:
- Start engine.



## STARTING AND STOPPING ENGINE 2-4

**BEFORE ATTEMPTING TO START THE ENGINE, ALWAYS ENSURE THAT THE TRANSMISSION IS SET TO THE NEUTRAL POSITION (THE GREEN DASH INDICATOR SHOULD BE ILLUMINATED). ATTEMPTING TO START THE ENGINE WHILE THE TRANSMISSION IS IN A FORWARD GEAR MAY CAUSE VEHICLE MOVEMENT RESULTING IN POSSIBLE PERSONAL INJURY AND/OR VEHICLE DAMAGE.**



## 2-5 CLUTCH AND GEAR SHIFTING

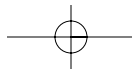
**FULLY DISENGAGED BEFORE CHANGING GEAR POSITIONS. FAILURE TO DO SO CAN RESULT IN DAMAGE TO CLUTCH AND/OR TRANSMISSION.**

**DOWNSHIFTING (SHIFTING FROM A HIGHER TO A LOWER GEAR POSITION) AT SPEEDS IN EXCESS OF THOSE LISTED IN THE "GEAR SHIFTING SPEED TABLE" IN THIS SECTION OF THE MANUAL MAY RESULT IN SEVERE DAMAGE TO THE VEHICLE AND LOSS OF CONTROL OF THE VEHICLE DUE TO REAR WHEEL TRACTION LOSS.**

The clutch engage/disengage mechanism is controlled by the clutch hand lever on the left handlebar of the vehicle (Figure 2 ).

Squeezing the lever in toward the grip disengages the clutch mechanism. Releasing the clutch lever engages the clutch mechanism.

The clutch mechanism is the means by which the engine and transmission gears are engaged and disengaged to allow the vehicle to stand still while the engine is still running and to disengage the engine from the transmission to allow smooth changing of gears.

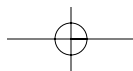
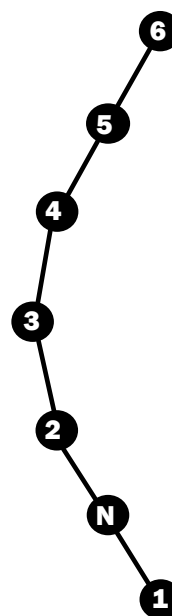


## CLUTCH AND GEAR SHIFTING 2-5

**ALWAYS RELEASE THE CLUTCH LEVER SLOWLY TO ALLOW THE ENGINE AND TRANSMISSION TO ENGAGE SMOOTHLY AND TO ALLOW THE REAR TIRE TO DEVELOP POSITIVE TRACTION WITH THE ROAD. FAILURE TO DO SO CAN RESULT IN MECHANICAL DAMAGE, EXCESSIVE WEAR AND BODILY INJURY DUE TO LOSS OF VEHICLE CONTROL.**

The gear shifter lever is located on the lower left side of the vehicle (Figure 3). It is operated with the left foot.

To change gears, the gear shifter lever must be raised all the way up with the top of the left foot to increase the gear number desired and must be lowered all the way down with the bottom of the left foot to lower the gear number desired. One full traverse up or down will accommodate one full gear position change up or down.



## 2-5 CLUTCH AND GEAR SHIFTING

### Gear Shifting Speed Table

RECOMMENDED ACCELERATION		SPEED	
FromTo	M.P.H. - K.P.H.		
1st Gear	2nd Gear	15	24
2nd Gear	3rd Gear	25	40
3rd Gear	4th Gear	40	63
4th Gear	5th Gear	50	79
5th Gear	6th Gear	65	103

RECOMMENDED DECELERATION		SPEED	
FromTo	M.P.H. - K.P.H.		
6th Gear	5th Gear	50	79
5th Gear	4th Gear	40	63
4th Gear	3rd Gear	30	48
3rd Gear	2nd Gear	20	32
2nd Gear	1st Gear	10	16

After each gear shift, the gear shifter lever must be allowed to return to its REST position before it can be



actuated again for another gear change. This is accomplished by merely removing left foot pressure and allowing the mechanism's spring to return the foot lever to its REST position.

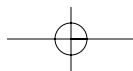
The NEUTRAL or NO GEAR position is found between first and second gear. The NEUTRAL position completely disengages the engine and transmission regardless of the position of the clutch control lever.

To shift to the NEUTRAL gear or position, it is only necessary to lift or push down (depending upon which gear you are shifting from) the gear shift lever one-half of its normal traverse distance. NEUTRAL gear can be reached by depressing the gear shift lever one-half of its normal traverse from second gear or by lifting the gear shift lever up by one-half of its normal traverse from first gear.

**WHILE THE VEHICLE IS IN MOTION, RIDERS SHOULD NEVER SHIFT MORE THAN ONE GEAR BEFORE ENGAGING THE CLUTCH MECHANISM. "SKIPPING" GEARS WHILE THE VEHICLE IS IN MOTION OVERSTRESSES THE VEHICLE AND CAN LEAD TO DAMAGE. SKIPPING GEARS WHILE THE VEHICLE IS IN MOTION AND DECREASING GEAR NUMBERS ALSO OVERSTRESSES THE VEHICLE, AS WELL AS DRAMATICALLY INCREASES THE POSSIBILITY OF LOSS OF VEHICLE CONTROL DUE TO SLIPPAGE OF THE REAR WHEEL.**

When at a standstill with the engine off, it may be necessary to slightly "rock" the vehicle forward and backward while the clutch mechanism is fully engaged and with slight pressure on the foot gear shifting lever to shift gears.

**IF AT A STANDSTILL, WITH THE ENGINE RUNNING, YOU EXPERIENCE DIFFICULTY SHIFTING GEARS, DO NOT FORCE IT. THIS COULD CAUSE SEVERE DAMAGE TO THE VEHICLE.** Simply retry the "rocking" approach with the engine off. If this still does not work, with the engine running, slightly let the clutch lever out while maintaining



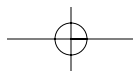
## 2-5 CLUTCH AND GEAR SHIFTING

slight pressure on the foot gear shifter lever. This maneuver may cause the vehicle to move slightly forward during engagement.

The following is a summary of procedures to be used to get under way and shift gears properly:

- **ALWAYS FULLY DISENGAGE THE HAND CLUTCH LEVER (SQUEEZED FULLY INTO HANDLEBAR GRIPS) BEFORE SHIFTING GEARS.**
- **NEVER GET UNDER WAY FROM A STANDSTILL IN ANY OTHER GEAR EXCEPT FIRST GEAR.**

1. Start engine per procedures listed in Section 2-4 and maintain vehicle in a full upright position at engine idle with gear shifter in NEUTRAL position, physically seated and straddling the vehicle.
2. Squeeze clutch lever to the fully disengaged position with left hand (Figures 2 ).
3. With the left foot, push the gear shifter foot lever down as far as it will go and release it to return to its “rest” position (Figure 3 ). You should now be in first gear.
4. Slowly release the clutch lever in your left hand to allow the clutch mechanism to gradually engage.
5. At the same time, slowly twist the right engine throttle control grip counterclockwise (toward operator) to increase engine speed (Figures 8.1 and 8.3 ).
6. As the vehicle gets under way, continue to increase engine speed. Move feet onboard to their normal operating positions.
7. Begin the process of shifting from first to second gear after the vehicle has progressed a few yards. Primarily, first gear is used to get the vehicle moving forward and stabilized under operator control.
8. Simultaneously decelerate the engine (by twisting throttle control grip all the way clockwise, away from the operator) and disengage the clutch (by squeezing the clutch lever all the way into the control grip).

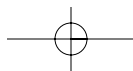


9. Lift the foot gear shift lever to its full up position and release. This should put the vehicle into second gear.
10. Repeat Steps 8 and 9 to continue advancing in gear number to fifth gear or sixth gear as desired.

Use “Gear Shifting Speed Table” (Page 24) as a guide on when to shift to the next highest gear. To downshift (shift from a higher to a lower gear), follow the similar procedure of disengaging clutch and also:

- Reduce engine throttle by about one-half to ensure engaging to a lower gear does not cause the rear wheel to lose traction.
- Depress the foot shifter lever to its full down position and release.
- Smoothly release the clutch lever to permit engagement.
- Increase throttle speed as desired, always shifting into first gear when coming to a full stop.

**DOWNSHIFTING (SHIFTING FROM A HIGHER TO A LOWER GEAR POSITION) AT SPEEDS IN EXCESS OF THOSE LISTED IN THE “GEAR SHIFTING SPEED TABLE” IN THIS SECTION OF THE MANUAL MAY RESULT IN SEVERE DAMAGE TO THE VEHICLE AND LOSS OF CONTROL OF THE VEHICLE DUE TO REAR WHEEL**



## 2-6 BRAKING SYSTEMS

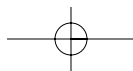
Your American IronHorse motorcycle is equipped with both front and rear brakes. The Slammer offers more than one set of brakes per wheel (Figures **13.1** and **13.2**).

For more detailed information about your braking components, refer to Section 1-2 of this manual.

The front brake(s) is operated by squeezing the front brake hand lever located on the right handlebar (Figure **12.1**).

The rear brake is operated by depressing the rear brake pedal on the lower right side of the vehicle (Figures **5** and **12.2**).

- **BRAKES ARE BEST USED WHEN EQUALLY BALANCED BETWEEN BOTH FRONT AND REAR BRAKES FOR BRAKING AND STOPPING.**
- **NEVER APPLY BRAKES SO STRONGLY THAT FRONT OR BACK WHEELS "LOCK UP." THIS WILL CAUSE LOSS OF OPERATOR CONTROL AND MAY RESULT IN PERSONAL INJURY.**
- **ALWAYS APPLY BRAKES SMOOTHLY AND BALANCED BETWEEN FRONT AND REAR WHEELS.**
- **BRAKES SHOULD BE USED SPARINGLY ON WET OR LOOSE PAVEMENT.**



## TURN SIGNAL INDICATORS & HAZARD FUNCTION 2-7

*CAUTION: A rear wheel slide can be somewhat controlled, but a front wheel slide cannot be controlled.*

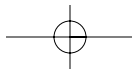
Your American IronHorse motorcycle is equipped with front and rear, left and right self-canceling turn signals on all models.

These turn signals are operated by turn signal switches located on the vehicle's handlebar controls. The left turn signal switch operates both the front and rear left turn signal lights (Figures 7, 9). The right turn signal switch operates both the front and rear right turn signal lights (Figures 7, 8.1 and 8.3).

Depressing either turn signal switch will begin the corresponding side turn indicator lights blinking on and off. Depressing both turn signal switches simultaneously will cause all turn signals to flash in unison for emergency flashers (hazard condition). Depressing both switches simultaneously again will turn them off.

Always ensure that turn signal lamps are operating. Replace burned-out lamps only with replacements as listed in the "American IronHorse Consumable Table."

**NEVER REMOVE FACTORY INSTALLED TURN SIGNALS OR REPLACE WITH NON-DOT APPROVED VERSIONS. REPLACEMENTS MAY BE MORE DIFFICULT TO BE SEEN BY OTHER VEHICLE OPERATORS.**

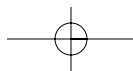


## 2-8 DIGITAL INFORMATION CENTER INDICATOR LIGHTS

Various indicator lights are provided on the vehicle control panel located just below the vehicle's handlebars and centered on the vehicle's gas tank (Figure 7).

- Turn signal indicators indicate which turn signal is flashing, right or left.
- The headlamp high beam indicator indicates that the front headlight is lit and in the high beam position.
- The neutral gear indicator light means that the vehicle's transmission is in the neutral position.
- The low oil pressure light indicates that the engine is experiencing low oil pressure. When initially starting the vehicle, this indicator light should momentarily come on for one or two seconds before the engine experiences adequate oil pressure.

**IF THE LOW OIL PRESSURE LIGHT REMAINS ON AS ENGINE SPEED INCREASES ABOVE IDLE, IMMEDIATELY TURN OFF THE ENGINE. OPERATING THE VEHICLE'S ENGINE WITH LOW OR NO OIL PRESSURE CAN SERIOUSLY DAMAGE THE ENGINE. OPERATING AN ENGINE WITH LOW OR NO OIL PRESSURE MAY SEIZE UP THE ENGINE CAUSING SEVERE DAMAGE AND RESULTING IN POSSIBLE PERSONAL INJURY TO THE OPERATOR. SEEK IMMEDIATE PROFESSIONAL ATTENTION BEFORE RESTARTING OR REUSING THE VEHICLE.**

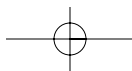


Your American IronHorse motorcycle is equipped with one or more of the following indicators, all of which are located on the vehicle's digital information center (Figure 7).

- Speedometer – Your vehicle's speedometer provides a continuous reading of the vehicle's forward speed.

**NEVER EXCEED THE POSTED SPEED LIMIT. ALWAYS LOWER SPEED BELOW THE POSTED SPEED LIMIT WHEN CONDITIONS WARRANT.**

- Odometer – Your vehicle's odometer indicates total miles traveled by the vehicle since leaving the factory.
- Tachometer – Your vehicle's engine rpm is continuously displayed.



## 2-9 DIGITAL INFORMATION CENTER

**WARNING: NEVER ALTER OR TAMPER WITH THE VEHICLE'S ODOMETER READING. THIS IS ILLEGAL AND MAY ALSO PERMANENTLY DAMAGE THE VEHICLE.**

The digital information center contains a tachometer, odometer, speedometer and indicator lights. The indicator lights are right-turn, left-turn, high beam, neutral and low oil pressure. It also has a daytime mode and nighttime mode.

### Operation

When the ignition switch is turned ON, the unit will display the odometer ("odo"), then the mileage and then "0" mph. The unit will stay in daytime mode (bright) or, depending on surrounding light, go to nighttime mode.

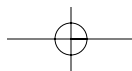
### Trip Meter

To display the trip meter, push and release the button (located at the circle in the bottom left corner) twice. The unit will display "odo," then "trp" and then display the mileage on the trip meter to that point (for example, "0058").

To reset or clear the trip meter to "0," push and hold the button. The display will show "odo," then "trp." Continue to hold the button for three seconds, then release. The trip meter is reset and will display "0" miles.

### Calibration

No calibration is required.



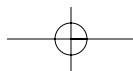


## HEADLIGHT SWITCH & HIGH BEAM ACTIVATION/HORN SWITCH 2-10

All models require the key to be turned to the ON position to activate lights (Figures **1** and **14**). (See Page 16).

- To turn on high beams, push the headlight switch to the HI position (Figure 9).
- To turn headlights down to normal intensity, push switch back to the LO position.

The vehicle's horn can be momentarily activated by depressing the horn switch on the left handlebar controls (Figure 9). Removing pressure from the switch will discontinue horn operation.



## 2-11 KICK (JIFFY) STAND

Your vehicle is provided with a kickstand mechanism to support your vehicle when not in use (Figure 10).

To extend the kickstand while sitting on the motorcycle, hold the vehicle upright with hands properly positioned on the handlebars and engage the kickstand with your left foot. Swing the kickstand to the fully extended, locked position with your foot.

Always turn handlebars to the left and gently allow the vehicle to lean onto the kickstand mechanism ensuring that the kickstand is properly positioned and fully supporting the vehicle **before** removing hands and support from the front handlebars.

**THE FOLLOWING ITEMS ARE IMPORTANT SAFETY PRECAUTIONS THAT MUST BE FOLLOWED TO ENSURE MAXIMUM SAFETY. FAILURE TO DO SO COULD RESULT IN THE VEHICLE FALLING OVER AND CAUSING VEHICLE DAMAGE AND POSSIBLE PERSONAL INJURY:**

- **ENSURE THAT THE KICKSTAND IS IN THE FULLY FORWARD, LOCKED POSITION BEFORE APPLYING THE WEIGHT OF THE VEHICLE. IF THIS IS NOT DONE, ANY SUBSEQUENT MOTION OR MOVEMENT OF THE VEHICLE MAY RESULT IN RETRACTION OF THE KICKSTAND AND THE VEHICLE FALLING OVER ONTO THE PARKING SURFACE. THIS COULD CAUSE DAMAGE TO THE VEHICLE AND POSSIBLE PERSONAL INJURY TO THE OPERATOR OR OTHERS. THE WEIGHT OF THE MOTORCYCLE ENSURES THAT THE KICKSTAND STAYS IN THE FULLY EXTENDED, LOCKED POSITION ONCE PROPERLY ENGAGED.**
- **ENSURE THAT THE KICKSTAND HAS BEEN FULLY RETRACTED BEFORE RIDING THE VEHICLE. FAILURE TO DO SO COULD CAUSE DAMAGE TO THE VEHICLE AND POTENTIAL LOSS OF VEHICLE CONTROL BY THE OPERATOR.**
- **FAILING TO TURN THE HANDLEBAR TO THE LEFT WHEN USING THE KICKSTAND COULD CAUSE THE VEHICLE TO FALL TO THE RIGHT, CAUSING DAMAGE TO THE MOTORCYCLE OR SERIOUS PHYSICAL INJURY.**
- **ALWAYS PARK YOUR VEHICLE ON A LEVEL, FIRM SURFACE CAPABLE OF HANDLING THE WEIGHT OF THE MOTORCYCLE, AS IT IS TRANSMITTED THROUGH THE KICKSTAND MECHANISM TO THE SUPPORTING SURFACE.**

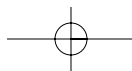
Your American IronHorse motorcycle is equipped with handlebar-mounted rear view mirrors (Figure 11). These mirrors have a curved, convex viewing surface in order to provide the operator with a wider span of visibility to the rear.

The convex nature of the mirrors gives the illusion that items viewed in the rear view mirrors are smaller and thus farther away from you than they really are. Therefore, great care must be exercised when making judgments as to how far back items actually are in your rear view mirrors.

**OBJECTS VIEWED IN YOUR REAR VIEW MIRRORS ARE CLOSER THAN THEY APPEAR. TAKE CARE WHEN JUDGING DISTANCES THROUGH USE OF REAR VIEWING MIRRORS.**

Using rear viewing mirrors is an excellent habit to develop. Always check the positioning of your mirrors before starting off on a ride. Always use an “over-the-shoulder” check method to check blind spots not visible through mirrors.

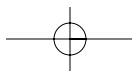
*CAUTION: Mirrors can become misaligned through vehicle use, bumping, vibration, etc. Always ensure that your mirrors are firmly attached to the vehicle and are adjusted according to the operator’s requirements prior to each ride.*



## 2-13 SECURING YOUR MOTORCYCLE

Always secure your vehicle when not in use. At a minimum, this includes removing the key from the ignition. Padlocking the brake rotor mechanism with a heavy-duty rotor lock is another method of securing your American IronHorse.

**WHEN THE ROTOR LOCK IS IN PLACE, THE VEHICLE CANNOT ROLL. NEVER ATTEMPT TO RIDE A VEHICLE WITH A ROTOR MECHANISM INSTALLED. THIS MAY RESULT IN SERIOUS PERSONAL INJURY.**



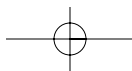
The Slammer is supplied with one, two piece 4-gallon gas tank. Each piece is fitted with its own gas cap. Take care not to cross gas cap threads during reattachment. To remove the gas caps, turn the cap counterclockwise. To secure the gas cap, turn the cap clockwise.

**WHEN REFUELING:**

- **ALWAYS REMOVE GAS TANK CAPS SLOWLY. PRESSURE BUILD-UP IN FUEL TANKS CAN CAUSE GASOLINE FLUID AND MIST TO CONTACT THE PERSON REFUELING.**
- **ALWAYS FILL TANK SLOWLY AND LEAVE THE TANK NECK SPOUT VOID AS FUEL EXPANDS WITH AMBIENT AND OPERATING TEMPERATURE INCREASES.**
- **ALWAYS ENSURE THAT THE GAS TANK CAP IS SECURELY TIGHTENED AFTER REFUELING, TAKING SPECIAL CARE NOT TO CROSS THREAD.**
- **NEVER REPLACE FACTORY EQUIPPED GAS TANK CAPS WITH ONES THAT REQUIRE FEWER TURNS TO REMOVE. THESE "QUICK CAPS" CAN EASILY BE DISLODGED AND ALLOW SPILLAGE OF GASOLINE FROM THE TANK. SUCH SPILLAGE MAY BE SUBSEQUENTLY IGNITED, AS IN A VEHICLE UPSET.**

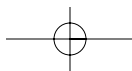
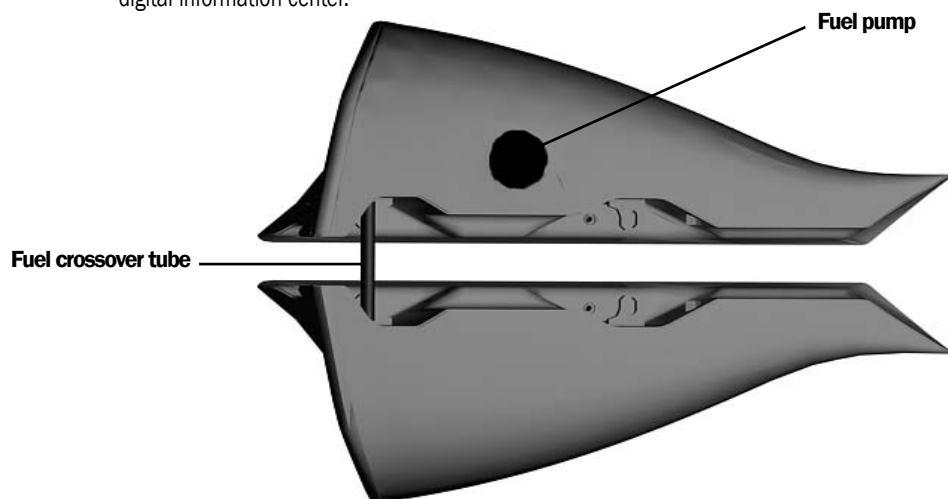
**WARNING**

- **GASOLINE WITH FUEL ADDITIVES MAY CAUSE DAMAGE TO VEHICLE PARTS.**
- **GASOLINE SPILLS CAN DISCOLOR VEHICLE PAINT AND FINISHES. CLEAN SPILLS OFF IMMEDIATELY.**



## 2-14 VEHICLE GASOLINE TANK

The fuel tank on the Slammer is a 2 piece design constructed of stainless steel and has a capacity of four U.S. gallons. The fuel pump is located in the left fuel tank and can be removed if pump maintenance needs to be performed. The fuel tank also has a low level fuel indicator that is actuated at .75 gallons and is displayed on the digital information center.



## SHOCK ABSORBERS/VEHICLE LOADING & ACCESSORIES

2-15

1. The Slammer model is equipped with two shock absorbers located underneath the vehicle.
2. These shock absorber devices are constructed of a spring and dampener mechanism and air actuated cylinder mounted underneath the frame of the motorcycle. These shock absorbers are set at the factory and can be re-adjusted for spring preload and ride height only.

The addition of accessories, additional weight loads, etc. have not been taken into consideration in the vehicle design and are to be strictly avoided.

**NEVER ADD WEIGHT LOADS AND/OR ACCESSORIES OTHER THAN THE RIDER. SUCH ADDITIONAL WEIGHT AND POTENTIAL WIND DYNAMIC LOADS MAY CAUSE VEHICLE INSTABILITY AND RESULT IN PERSONAL INJURY. SIMILARLY, CUSTOMIZATION OF ORIGINAL VEHICLE DESIGN SHOULD NEVER BE MADE UNLESS FORMALLY REVIEWED BY AMERICAN IRONHORSE AND CONFIRMED IN WRITING.**

## 2-16 AIR RIDE SUSPENSION

### Overview of Components

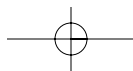
The Slammer Air Ride Suspension system incorporates one coil-over shock absorber of a conventional soft-tail design. It has an oil-filled dampener system wrapped by a stiff spring in compression. The second “shock” is actually a pair of air chambers on opposite sides of a piston within a shock absorber body. These air chambers are pressurized by use of an on-board air compressor. The system design incorporates manual air pressure bleed valves, as well as manual-fill Schrader valves in case of compressor failure (Figure 14). In the event of a pressure hose failure or air chamber failure, the bike will failsafe into a NEUTRAL ride height. This ensures the bike suspension will not be bottomed out against the frame stops should such a pressure failure occur.

### Operation

#### NOTE:

- 1. DO NOT ATTEMPT TO ADJUST THE AIR RIDE WHILE MOVING. THIS COULD RESULT IN BODILY INJURY.**
- 2. NEVER OPERATE THE SYSTEM WITH LESS THAN 40 PSI IN THE REAR PRESSURE CHAMBER AND LESS THAN 10 PSI IN THE FRONT PRESSURE CHAMBER.**

With both chambers bled (by depressing each of the two bleed valves), the suspension is in the NEUTRAL position. Start familiarizing yourself with the system by depressing the bottom (or rear) half of the toggle switch, located in the electronics cover near the ignition, to activate the air pump (Figure 14). Under normal operation, the rear pressure chamber is being pressurized, and the bike will lower. Release the switch when the bike stops lowering. Now locate and depress the bleed valve that allows the pressure to escape and lets the bike rise back to the NEUTRAL position. Repeat the process by depressing the opposite side of the toggle switch, forcing air into the front air chamber and causing the bike to rise. Depressing the second bleed valve will again allow the bike to return to the NEUTRAL position. Remember, the minimum pressure values are 40 psi for the rear chamber and 10 psi for the front chamber.

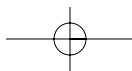




## AIR RIDE SUSPENSION 2-16

Both air chambers can be pressurized to let the individual rider adjust for road conditions and bike loading. As a rule of thumb, the higher the pressure in both chambers, the more harsh the ride.

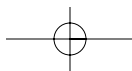
The air ride is also outfitted with a pair of Schrader valves. Air can be added to these valves to adjust the ride should the onboard compressor fail. Do not exceed 150 psi, or the air chambers will fail. Do not try to operate the system while riding the bike. Only adjust the system while sitting on the bike with both feet firmly on the ground and the bike either off or idling in neutral.



## 3-1 INTRODUCTION/THEORY OF MAINTENANCE

**IT IS IMPERATIVE THAT THE RECOMMENDED INSPECTION AND MAINTENANCE PROCEDURES OUTLINED IN THIS MANUAL BE STRICTLY ADHERED TO IN ORDER TO MAINTAIN A SAFELY OPERATING MOTORCYCLE. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY TO THE RIDER AND/OR DAMAGE TO THE MOTORCYCLE.**

Like all mechanical devices, constant wear and tear on motorcycle parts and assemblies is a normal result of use. Recommended periodic inspection, topping off or changing fluids and replacement of worn parts and assemblies is the only way to ensure continuous, safe operation of your American IronHorse motorcycle. Strictly following recommended procedures cannot be overemphasized.

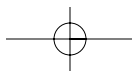


### General Procedures of Maintenance

Ensuring a safe, well-operating American IronHorse motorcycle requires a partnership between the rider and a competent and formally trained, professional motorcycle technician.

**THE TECHNICIAN WILL PERFORM PERIODIC RECOMMENDED PROCEDURES AND TESTS AT RECOMMENDED MILEAGE INTERVALS.** The rider will perform checks prior to every ride and between recommended intervals. In this way, your American IronHorse motorcycle will continuously receive the attention needed for safety and pleasurable ownership.

1. Check fluid levels on transmission, primary and engine oil.
2. Check tires for proper inflation and inspect tire surfaces for uneven wear, excessive tread wear, cuts or abrasions. Check wheel spoke tightness, if applicable.
3. Check drive belts or chains for proper tension and integrity.
4. Check operation of brakes, brake fluid levels, brake hydraulic lines and fittings for leaks or damage. Check brake pads and discs for excessive and/or uneven wear.
5. Check system lamps for proper operation: headlight, taillight, brake light and front and rear directional lights.
6. Check major operating systems for proper function: throttle controls, steering and brakes. Ensure all operating cables are in good condition and free from interference.
7. Ensure proper engine idle speed and operation. Be sure that throttle and enricher controls are correct.



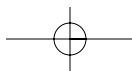
### 3-3 PROFESSIONAL TECHNICIAN INSPECTIONS & MAINTENANCE PROCEDURES

**WARNING: RECOMMENDED INTERVAL MAINTENANCE AND INSPECTIONS ARE CRITICAL TO OPERATOR SAFETY AND A PROPERLY PERFORMING MOTORCYCLE. ENSURE THAT THE TECHNICIAN WORKING ON YOUR MOTORCYCLE IS FORMALLY TRAINED, EXPERIENCED AND PROFESSIONALLY QUALIFIED TO PERFORM THESE IMPORTANT PROCEDURES.**

**RECOMMENDED COMPLETE, PROFESSIONAL INSPECTIONS AND MAINTENANCE MUST BE PERFORMED AT 500 MILES AND AGAIN AT 2000 MILES AND 4000 MILES.**

**SUBSEQUENT PROFESSIONAL INSPECTIONS AND MAINTENANCE PROCEDURES MUST BE PERFORMED AT LEAST EVERY 2000 MILES THEREAFTER. CONSEQUENTLY, A COMPLETE, PROFESSIONAL INSPECTION AND MAINTENANCE MUST BE PERFORMED AT THE FOLLOWING ODOMETER INTERVALS: 500 MILES, 2000 MILES, 4000 MILES, 6000 MILES, 8000 MILES, 10,000 MILES, AND SO ON FOR THE LIFE OF THE MOTORCYCLE. ALSO BE SURE TO REFER TO THE MAINTENANCE SCHEDULE ON PAGE 68.**

Procedures are categorized by motorcycle system. Consult "American IronHorse Consumable Table" for proper replacement items.



**A. Engine Systems**

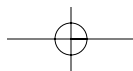
- Drain and replace engine oil with 20W50 weight nonsynthetic motor oil. Similar weight synthetics may be used after the initial 2000-mile break-in has been completed.
- Replace oil filter and filter gasket.
- Replace air cleaner.
- Inspect, clean or replace tappet oil supply screen.

**B. Electrical Systems**

- Check integrity of battery connections (Figure 4).
- Check that all lights are functioning properly: headlight, front and rear turn signal lights, brake light(s) and taillight.
- Check all electrical switches and assemblies for proper operation.

**C. Drive Train Systems**

- Check rear belt for proper tension, condition of teeth and general integrity of belt.
- Check primary chain for proper tension, condition of links and general integrity.
- Check clutch hydraulic line integrity and interconnections.
- Check clutch adjustment.
- Drain and replace transmission fluid with recommended transmission fluid. Drain and replace primary fluid with recommended primary fluid (Figures 6.1, 6.2 and 6.3). (See "American IronHorse Consumable Table" on Page 69.)



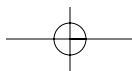
## 3-3 PROFESSIONAL TECHNICIAN INSPECTIONS & MAINTENANCE PROCEDURES

### D. Fuel, Ignition and Throttle Systems

- Check fuel valve and lines for leaks and general integrity.
- Remove and clean tank filter screen(s).
- Check proper operation of throttle.
- Replace spark plugs and check for proper gap setting.
- Check for proper engine idle speed.
- Check speedometer cable and connections.
- Check integrity and interconnections on throttle control cables.
- Lubricate cables as necessary to avoid corrosion.

### E. Braking Systems

- Check brake fluid level and general condition of fluid. Replace or replenish as indicated by inspection.
- Check brake pads and discs for wear life and abnormal or uneven patterns of wear. Replace in sets as indicated.
- Check rear brake pedal height adjustment.
- Check front and rear brake lever operation.
- Check brake caliper mounting integrity.
- Check brake system hydraulic lines and fittings for integrity (leaks, fraying, etc.).



**F. Wheels and Tires**

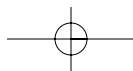
- Check front and rear tire pressures.
- Check front and rear tire surfaces for uneven wear, tread thickness, cuts or abrasions.

**G. Suspension System**

- Replace front fork oil at 10,000-mile intervals, beginning with odometer reading of 10,000 miles.
- Check and adjust front fork neck bearings.
- Check and adjust rear fork pivot bolt.
- Check condition of shock absorbers.

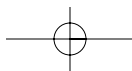
**H. Other Inspections**

- Check engine mounts (pay special attention to top mount).
- Check integrity of vapor containment system and interconnections (on California models only).
- Check to ensure all components and assemblies are secure. See Service Manual for additional details as required.



## 3-4 ROAD TESTING/WASHING MOTORCYCLE

**AFTER EVERY RECOMMENDED INTERVAL MAINTENANCE, A COMPETENT, PROFESSIONALLY TRAINED AND EXPERIENCED MOTORCYCLE TECHNICIAN SHOULD ROAD TEST THE MOTORCYCLE TO ENSURE THAT ALL VEHICLE SYSTEMS ARE IN GOOD CONDITION AND SAFELY OPERATING.**



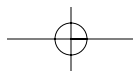


**WARNING: NEVER USE A PRESSURE WASHER ON YOUR MOTORCYCLE AS IT MAY RESULT IN FAILURE/DAMAGE OF THE ELECTRICAL SYSTEM OR COMPONENTS.**

Proper engine lubrication is critical to the life and performance of your vehicle's engine. American IronHorse engines run best with 20W50-rated oil. For extremely low operating temperatures (below 40° F), 10W40 may be used.

Change oil at recommended service intervals. In colder weather, dusty road conditions or more demanding conditions, it is recommended that engine oil be changed more frequently.

Under normal operating conditions, slight water vapor in the crankcase is expelled through the breather port. Operation in extremely cold ambient conditions or riding in short runs, however, may not allow the engine oil to heat up to the point of passing water vapor thereby retaining it in the crankcase. Such occurrences may block oil flow in the lines and create sludge in the crankcase.



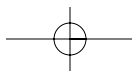
## 4-2 CHECKING AND ADDING ENGINE OIL

**WARNING: CHANGE THE OIL MORE FREQUENTLY THAN NORMAL SERVICE INTERVALS IN COLD WEATHER USE. ENSURE THAT CRANKCASE OIL IS THOROUGHLY HEATED BEFORE DRAINING TO ENSURE COMPLETE REMOVAL OF ALL ACCUMULATED WATER.**

The engine oil level can be checked by removing the oil tank cap and verifying that engine oil level is approximately 1 inch below the top of the oil tank for soft-tail and rigid models (Figure 4). Engine oil levels should be checked each time your vehicle's gas tank is filled.

In order to properly read engine oil level, engine oil must be at normal operating temperature level. Achieving this condition will vary according to ambient temperatures.

When the engine oil has reached the appropriate temperature, turn off the engine and remove the oil cap. If the level indicates that addition of oil is required, do so using SAE 20W50 oil. Oil is added through the fill spout opening (Figure 4). Never check the oil level on a cold motorcycle.



**WARNING: ALWAYS USE THE APPROPRIATE FILLING DEVICE TO ENSURE THAT OIL DOES NOT SPILL ONTO VEHICLE PARTS, TIRES OR PAVEMENT UNDER THE VEHICLE. THIS MAY CAUSE DAMAGE TO THE VEHICLE AND MAY CAUSE THE VEHICLE OPERATOR TO LOSE CONTROL WHEN TIRES COME IN CONTACT WITH OIL SLICK TRACTION SURFACES.**

When engine oil requires replacement:

- Ensure oil is warm from vehicle engine operation.
- Place an appropriately sized container directly under the oil tank drain plug.
- Remove drain plug ensuring that cascading or splashing oil will not come in contact with eyes or skin.
- Allow engine oil to thoroughly drain (about five minutes).
- Replace oil drain plug.
- Remove oil filter by unscrewing canister in a counterclockwise direction.
- Clean oil filter mounting plate surface to remove any foreign material, old gasket remnants, etc.
- Apply a thin film of oil to the cleaned oil filter mounting plate. Apply a similar, thin film of oil to a new oil filter gasket.
- Screw the new filter with the gasket onto the oil filter mounting plate. Fill oil tank with the appropriate amount of oil listed in Section 1-2, "Fluid Capacities" and in the "American IronHorse Consumables Table" on Page 69.

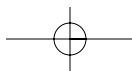
## 4-4 TRANSMISSION LUBRICATION

- Start engine after filling the oil tank with about 72 ounces of oil. Watch for the oil level to lower as the filter fills and foam to start forming on the oil surface as oil starts to return from the engine. Finish topping off tank with the balance of the required amount of oil (from chart). When properly filled, the oil surface level should be 1 inch below the top of oil tank.
- Replace oil tank cap.

Proper transmission lubrication is critical to the safe, long life operation of your vehicle's transmission. Transmission fluid should be replaced at recommended maintenance intervals. If the vehicle is not ridden often, transmission fluid should be changed at least annually.

Transmission fluid levels should be checked monthly between recommended service intervals. To check transmission fluid level:

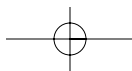
- Ensure that the vehicle's engine has reached normal operating temperature and is turned off.
- Ensure that the vehicle is standing straight up, level and perpendicular to the pavement.
- Allow about two minutes for the vehicle's transmission fluid to equalize before taking a reading.  
Note: Transmissions are easy to overfill and very messy when overfilled.
- Remove the sight plug located in the side of the transmission trap door (Figure **6.2**). Proper fill level is when the transmission fluid level is at the bottom edge of the threaded hole. If needed, top off the fluid through the fill port, located on top of the trap door (Figure **6.1**). Be sure to use transmission fluid recommended in the "American IronHorse Consumable Table."
- Prior to draining spent transmission fluid **6.3**.
- Unscrew the drain plug, located in the bottom of the trap door, ensuring that cascading or splashing fluid will not come in contact with the eyes or skin.
- Allow fluid to thoroughly drain (about five minutes).



## TRANSMISSION LUBRICATION 4-4

- Replace the drain plug by tightening in a clockwise direction. Tighten to 85 inch-pounds. Replenish with new transmission fluid, as recommended in the “American IronHorse Consumable Table,” through the transmission fill port (Figure 6.1 ). Quantities are listed in Section 1-2, “Fluid Capacities.”
- Check fill height at the sight plug (Figure 6.2 ).

**WARNING: BE CAREFUL NOT TO OVERTIGHTEN THE DRAIN PLUG. ENSURE THAT NO FOREIGN MATERIALS,**



## 4-5 PRIMARY AND REAR DRIVE BELT

### **SUCH AS DUST, DEBRIS, ETC., ARE INTRODUCED INTO THE TRANSMISSION DURING DRAINING AND REFILLING OF THE RESERVOIR.**

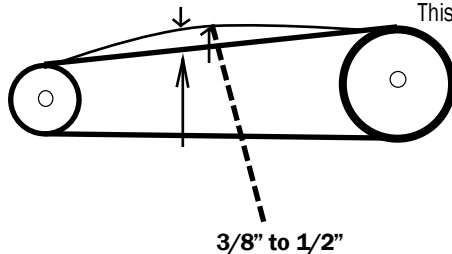
Tension and integrity of the primary and rear drive belt or chains should be checked at each recommended service interval unless vehicle operation indicates attention sooner.

Belts also should be inspected for fraying, uneven wear pattern and excessive tooth surface wear.

The primary chain must have chain tightness checked. The primary chain should have 3/8 inch - 5/8 inch play when hot and no more than 7/8 inch when cold. In addition to belt condition, tightness of belts on pulleys must be checked. This is accomplished by alternately applying a 10-pound force to the top and bottom side of belt in the center of the distance between the two pulleys. The "play" or deflection on the belt should be 1/2 inch.

With soft-tail type motorcycles, it should be noted that the belt gets looser as the suspension compresses.

This is proper and should be expected. The belt should be adjusted with ride height consideration.



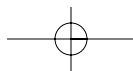
A trained, professional technician should conduct belt inspection and adjustments. Unsuitable belts should be discarded and replaced with recommended belts from the “American IronHorse Consumable Table.”

To check primary fluid level, remove the derby cover, making sure that the bottom edge of the clutch diaphragm spring is touching the surface of the fluid.

The clutch mechanism is controlled by the clutch lever located on the left side of the handlebars (Figure 2).

An improperly adjusted clutch cable or worn clutch plates can cause clutch slippage under load conditions or can cause hesitation before engaging upon lever release. These indications should be inspected and corrected by a trained, experienced technician.

The hydraulic clutch control master cylinder must be topped off with DOT 5 brake fluid to compensate for clutch disc wear.



## 4-7 BRAKE SYSTEM

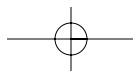
**BRAKE SYSTEMS ARE ONE OF THE MOST IMPORTANT SAFETY SYSTEMS ON YOUR AMERICAN IRONHORSE VEHICLE. TROUBLESHOOTING, REPAIR OR SERVICING OF BRAKE SYSTEMS SHOULD ONLY BE DONE BY TRAINED, EXPERIENCED, PROFESSIONAL TECHNICIANS. IMPROPERLY INSTALLED, ADJUSTED OR SERVICED BRAKES CAN LEAD TO EXTREME BODILY HARM.**

Brake system pads and discs should be checked at recommended inspections and maintenance intervals (Figures 13.1 and 13.2). At the same intervals, the brake system fluid level should be checked to ensure appropriate levels are maintained. Use only hydraulic brake fluids approved by U.S. Department of Transportation, DOT 5 such as listed in the "American IronHorse Consumable Table."

**BRAKE PADS AND DISCS SHOULD BE INSPECTED FOR WEAR AT LEAST EVERY 2000 MILES. UNDER CITY DRIVING, STOP AND GO CONDITIONS OR WITH CONTINUOUS OPERATION IN HILLY TERRAIN, MORE FREQUENT INSPECTIONS AT EVERY 500 TO 1000 MILES SHOULD BE MADE.**

Visual inspection of brake pads can be done without removing any parts. If the thickness of the brake pad friction material (not including the brake pad metal backing plate) is not at least 1/16 inch thick, immediately replace the brake pad pair. Always replace brake pads in pairs.

**OPERATING BRAKE SYSTEMS WITH BRAKE PAD FRICTION MATERIAL THICKNESS (NOT INCLUDING THE BRAKE PAD METAL BACKING PLATE) OF LESS THAN 1/16 INCH IS VERY DANGEROUS AND CAN LEAD TO BRAKE FAILURE, COMPONENT DAMAGE OR INADEQUATE BRAKING RESULTING IN SEVERE BODILY HARM.**





Proper tire condition is a critical safety element. It requires a constant vigilance by the operator to ensure continuous safe conditions.

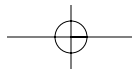
Tire inflation pressure levels should be monitored at each tank fueling.

**IMPROPER TIRE INFLATION CAN CAUSE UNEVEN TIRE TREAD WEAR RESULTING IN UNSTABLE VEHICLE OPERATION. UNDERINFLATION OF TIRES CAUSES EXCESSIVE HEAT BUILD-UP THAT CAN LEAD TO TIRE FAILURE. ALSO, UNDERINFLATION CAN LEAD TO RIDER INSTABILITY. THESE AND SIMILAR RESULTS OF**

Always follow recommended inflation pressures of the tire manufacturer. For American IronHorse original equipment tires, the following inflation pressures should be maintained (measured when tire is cold, not immediately following road use):

TIRE INFLATION PRESSURE		
Riders	Front	Rear
Solo	36 psi	42 psi

Always consult the tire sidewall for proper inflation.



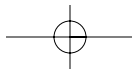
## 4-8 TIRES

In addition to tire inflation pressure, it is very important to continuously monitor the general condition of your vehicle's tires.

**MAXIMUM TIRE SAFETY. FAILURE TO CARRY OUT THESE RECOMMENDATIONS MAY RESULT IN SEVERE BODILY HARM.**

riding your vehicle each time.

- **NEVER USE DAMAGED OR REPAIRED TIRES.** Once your vehicle's tire(s) has been compromised, it should never be reused. It should be replaced with a new tire(s) as it is unsafe.
- **NEVER INDISCRIMINATELY REPLACE A SPENT TIRE WITH JUST ANY NEW TIRE.** New replacement tires should be the same as the original equipment tires. (See "American IronHorse Consumable Table" for replacement tire information.) Selection of an improper replacement tire could cause unstable vehicle operation.
- Always have a trained, professional service technician replace your vehicle's tires. Special procedures and tools are required to properly and safely install, maintain and replace tires, tubes and wheels.
- Operating your vehicle with excessively or unevenly worn, improperly inflated or unbalanced tires can affect vehicle stability and may result in serious injury to you and/or your vehicle.
- Always be attentive to situations where your vehicle's tire(s) may have been overly stressed due to striking objects such as curbs, potholes, etc. It is possible for a tire to experience severe internal damage in such situations without exhibiting any outward signs. Always have such tires removed and inspected, inside and out, for possible damage before re-operating your vehicle with such tires. If ever in doubt of a tire's suitability for safe operation, replace it with a new tire. Never take chances on a questionable tire.

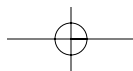


## BEARING MAINTENANCE/SHOCK ABSORBERS 4-9

Wheel bearings and neck bearings should be inspected at each recommended inspection and maintenance interval. Ball-style bearings are sealed and should be replaced at 10,000-mile intervals.

Unless deemed necessary to repack these bearings at more frequent intervals, all roller neck bearings should be repacked at 10,000-mile intervals or once annually, whichever comes first. Indications of roughness of operation or excessive "play" in bearings should be heeded by initiation of bearing replacement or repacking. Repacking procedures should always include use of the proper lubrication medium.

If shock absorbers malfunction or leak, they should be replaced with "same as new" shock absorbers model type, as indicated in the "American IronHorse Consumable Table." Do not attempt to repair shock absorbers.



## 4-10 SPARK PLUGS/IGNITION SYSTEM

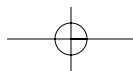
Spark plugs should be inspected and replaced if needed. Spark plugs should be replaced at a minimum of every 8000 miles. (It is recommended that the spark plugs be replaced every 4000 miles for optimum vehicle performance).

When replacing your vehicle's spark plugs:

- Always replace with the same type as the original equipment plugs, as indicated in the "American IronHorse Consumable Table."
- Ensure the gap setting is .040. An appropriate spark plug feeler gauge should be used.
- Never remove spark plug wires from plugs by pulling on wires. Always grasp the molded rubber spark plug cap for removal of wires.
- Spark plugs should be tightened down to 200 inch pounds to ensure proper, continuous operation.

Your American IronHorse is equipped with one of the most advanced, electronic ignition systems presently available on the market. Only a professionally trained technician should address its sophisticated electronic operation. As set at the factory, your ignition system optimizes fuel consumption, engine horsepower and exhaust emissions. It is factory set and nonadjustable.

Your vehicle's battery is the critical energy source that permits normal electronic function. It is physically located under the vehicle operator's seat (Figure 4). In order to ensure reliable, full life use, the chemical nature of the battery requires constant attention and care. Additionally, review the important safety precautions to prevent severe bodily harm.



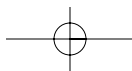
To create electricity, your vehicle's battery is constantly in a state of chemical flux, thereby also creating explosive hydrogen gas as a by-product.

**THE FOLLOWING PRECAUTIONS SHOULD ALWAYS BE EXERCISED WITH YOUR VEHICLE BATTERY:**

- **BATTERIES CONTAIN SULFURIC ACID TO PROPERLY OPERATE. AT ALL TIMES, CARE MUST BE TAKEN NOT TO BRING EYES, SKIN, CLOTHING OR OTHER ITEMS IN CONTACT WITH BATTERY ACID. SUCH CONTACT COULD CAUSE SEVERE INJURY OR DAMAGE.**

**EMERGENCY PROCEDURE IF CONTACT IS INADVERTENTLY MADE:**

- **SWALLOWED – DRINK LARGE QUANTITIES OF WATER THEN MILK OF MAGNESIA OR VEGETABLE OIL. IMMEDIATELY SEEK MEDICAL ATTENTION.**
- **CONTACT WITH EYES OR SKIN – FLUSH AFFECTED SURFACES CONTINUOUSLY WITH WATER. CONTINUE FOR THREE TO FIVE MINUTES. IMMEDIATELY SEEK MEDICAL ATTENTION AS INDICATED.**
- **ALWAYS KEEP BATTERIES AND BATTERY ACID OUT OF REACH OF CHILDREN.**
- **SMALL AMOUNTS OF HYDROGEN GAS ARE CONSTANTLY BEING EMITTED FROM YOUR VEHICLE'S BATTERY. THE AMOUNT OF GAS INTRODUCED IS INCREASED DURING PERIODS OF EXTERNAL USE/CHARGING. HYDROGEN GAS IS HIGHLY FLAMMABLE. KEEP CIGARS, CIGARETTES, PIPES, LIGHTERS, OPEN FLAMES OR SPARKS AWAY FROM THE BATTERY AT ALL TIMES. VENTILATE GENERAL AREA WHEN CHARGING YOUR BATTERY.**
- **ALWAYS WEAR PROTECTIVE EYEWEAR, GLOVES AND SIMILAR PROTECTIVE DEVICES WHEN NEAR THE BATTERY OR BATTERY ACID.**



## 4-11 BATTERY

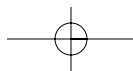
Your American IronHorse battery is a heavy-duty model to provide the adequate power needed to start your high horsepower engine. Replacement batteries should always be the same type as the original equipment, as indicated in the "American IronHorse Consumable Table."

### WARNING:

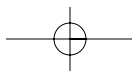
- **DO NOT TIP BATTERY; OVERFLOW MAY DAMAGE OTHER VEHICLE PARTS AND POSSIBLY CREATE PERSONAL INJURY RISKS.**
- **ENSURE THAT BATTERY CONNECTIONS ARE TIGHT, CLEAN AND COATED WITH A LIGHT COVERING OF PETROLEUM JELLY TO RETARD CORROSION.**

Batteries exhibit certain characteristics of note.

- If a battery sits for long periods of time, it will gradually lose its charge. If this condition persists, a battery may be permanently damaged and unable to hold a charge and function properly again. A similar situation can occur if the internal battery plates remain uncovered by electrolyte for extended periods.
- If long-term storage is required, it is recommended that the battery be fully charged, removed from the vehicle and stored in a cool, dry place. The battery should be recharged before reinserting it into the vehicle. Owners who store their motorcycles for long periods and/or store the motorcycle in cold areas should consider battery maintenance devices such as "tenders."
- A properly charged battery will display in excess of 13VDC.
- Battery fluids can freeze at low temperatures. This can result in lowered battery life or failure. Always ensure that your battery is protected from freezing temperatures. Batteries in a low charge condition are more susceptible to freezing. The battery should be charged according to one of the two following charge rates:
  - For a 1-amp/hour battery charger, charge for ten hours or until charger shows "fully charged" for



- a partially discharged battery (all Powersource, Inc.).
- For a 10-amp/hour battery charger, charge for one hour or until charger shows “fully charged” for a partially discharged battery (Powersource, Inc.).

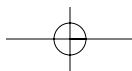


## 4-12 VOLTAGE REGULATOR AND ALTERNATOR/CIRCUIT BREAKERS

Your American IronHorse vehicle's voltage regulator is located on the front of the vehicle's frame. Its function is to control the electrical energy flow to the vehicle's battery. No settings or adjustments of the voltage regulator are required after leaving the factory.

The vehicle's alternator should be diagnosed by a professionally trained motorcycle technician. Vehicle electrical problems can be very difficult to diagnose and correct. Consequently, it is recommended that such problems be dealt with by a professionally trained technician.

Circuit breakers are provided to protect your vehicle's system wiring. The main circuit breaker is located on the rear wheel splash shield. Additional circuit breakers are located inside the relay harness controller (RHC).





Your vehicle is provided with the following lights:

- Front headlamp
- Two front turn signals
- Two rear turn signals
- Rear brake lights
- License plate light

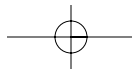
The vehicle operator should frequently verify the proper operation of these lights. Replacement lamps (bulbs) should always be the same as the original type, as indicated in the "American IronHorse Consumable Table."

**WARNING:**

- **USING HIGHER WATTAGE REPLACEMENT LAMPS (BULBS) THAN THE ORIGINAL EQUIPMENT CAN CAUSE ELECTRICAL SYSTEM FAILURE.**
- **FINGERPRINTS, OILS OR OTHER FOREIGN MATERIALS CAN DAMAGE HEAD LAMPS. ALWAYS USE CLEAN GLOVES, CLOTH OR SIMILAR PRECAUTIONS TO PREVENT SUCH DAMAGE WHEN HANDLING HEADLAMPS.**

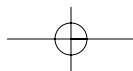
**USING LOWER WATTAGE REPLACEMENT LAMPS (BULBS) THAN THE ORIGINAL EQUIPMENT CAN RESULT IN IMPAIRED VISIBILITY BY THE OPERATOR OF OTHER VEHICLES RESULTING IN POSSIBLE PHYSICAL INJURY.**

**USING LOWER WATTAGE REPLACEMENT LAMPS (BULBS) CAN MELT LENSES AND BLISTER CHROME.**



## 4-14 HYDRAULIC TAPPETS

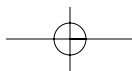
Tappets are self-adjusting and hydraulic. These type of tappets automatically adjust to keep the valve mechanism free of lash while the motor is running to reduce valve wear. The valve mechanism may be slightly noisy when the motor is cold, until the hydraulic tappets “pump-up” or completely repressurize with oil. If at any other point the valve mechanism becomes excessively or abnormally noisy, it may indicate that one or several of the hydraulic units are not functioning correctly. Always check oil supply first, as normal oil circulation through the engine is necessary for hydraulic units to function properly. If there is oil in the tank, there may be dirt or debris in the oil supply passages leading to the hydraulic units, thereby causing the units to function improperly. Inspect and clean tappet oil supply filter screen.



Several points or systems on your American IronHorse motorcycle need to be lubricated or oiled at scheduled inspections and maintenance intervals or earlier if so indicated by system operation.

Some of these points are discussed in detail elsewhere in this manual. A summary is provided here, briefly noting those discussed in more detail elsewhere in this manual and indicating additional points or systems. (See Section 1-3 for indications of various point systems addressed in this section.)

1. Engine oil – See Section 4-2.
2. Oil filter – See Section 4-3.
3. Transmission fluid – See Section 4-4.
4. The following levers and cables should be inspected and lubricated as needed at recommended inspections and maintenance intervals or sooner if system operation indicates.
  - Clutch control lever and throttle control cable (Figures **2** and **8.2**)
  - Front brake hand lever
5. Lubricate mechanical kickstand with white lithium grease or anti-seize (Figure **10**). Do not overlubricate as it will contribute to possible dirt and grime build-up on the mechanism.
6. The following bearings should be repacked with fresh grease at least at 10,000-mile intervals or 12 months, whichever occurs first: steering head bearings and front and rear wheel bearings, except for sealed-ball bearings as noted previously.
7. Lubricate handlebar throttle grip mechanism with new, fine grain graphite powder at least annually or sooner if operation of mechanism indicates.



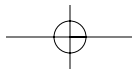
## 4-16 MOTORCYCLE MAINTENANCE

### American IronHorse Maintenance Program

Odometer Reading	500	2000	4000	6000	8000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000	32,000	34,000
Engine Oil	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Oil Filter	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Oil Screen	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-
Rear Belt	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Primary Chain	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Primary Lubricant	R	-	R	-	R	-	R	-	R	-	R	-	R	-	R	-	R	-
Brake Pads and Disc	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Brake Fluid Levels	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Lights and Horn	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Clutch Adjustment	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Fuel Valve and Lines	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Front Brake Lever	L	-	L	-	L	-	L	-	L	-	L	-	L	-	L	-	L	-
All Fasteners	T	-	T	-	T	-	T	-	T	-	T	-	T	-	T	-	T	-
Tire Pressure/Damage	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Delrin Bushings						I/R					I/R			I		I/R		
Throttle Operation	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Electrical Switches	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Ignition Timing	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-
Spark Plugs	-	-	I	-	R	-	I	-	R	-	I	-	R	-	I	-	R	-
Transmission Lubricant	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I
Engine Mounts	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-
Rear Brake Caliper	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-
Front Brake Caliper	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-
Sealed Bearings	-	-	-	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Front Fork Oil	-	-	-	-	-	R	-	-	-	-	R	-	-	-	-	R	-	-
Road Testing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Key: I = Inspect if necessary      L = Lubricate      R = Replace      T = Tighten to proper torque      X = Perform

DETAILED MAINTENANCE PROCEDURES



## AMERICAN IRONHORSE CONSUMABLE TABLE 5-1

ITEM	DESCRIPTION	American IronHorse #	Alternative
Oil	Castrol ACT EVO V-Twin 20W50	X11000100	Drag Specialties 934217216
Oil Filter	EVO Style	Q51000100	Harley-Davidson 63796-77A
Spark Plugs	.040 NGK	H11000103	Drag Specialties DCPR7E
Battery	Powersource, Inc.	H61001203	Drag Specialties YTX 20HL-BS
Brake Pads 6 piston	Kevlar EBC	T77011303	Bikers Choice® 61-2490
Air Filters	S&S® 49 States	K41000500	Bikers Choice® 49-9242
Tire, Front	ME880 90/120-21 Metzeler		Drag Specialties
Tire, Rear	ME880 300/35VR-18 Metzeler		Drag Specialties

**5-1 AMERICAN IRONHORSE CONSUMABLE TABLE**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>American IronHorse #</b>	<b>Alternative</b>
Transmission Fluid	Super S 80W-90 GL5	X15000201	Drag Specialties MC4-8090
Brake Fluid	DOT 5 Bel-Ray®	X31000200	Drag Specialties MC-25
Coils	AIH Single Fire	H15000303	Gill Instruments 1317-10-010
Bulbs:			
Headlight (Halogen)	H4 (55/60W)	G15000500	Drag Specialties DS-280009
Front Signal/Rear Signal			
Rear Brake	LED Cluster	G45000806	
		G45002006	
Primary Fluid	Castrol MTX	X21000201	Drag Specialties BA-6327
Hydraulic Clutch Fluid	DOT 5 Bel-Ray®	X31000200	Drag Specialties MC-25

## REPORTING OF SAFETY DEFECTS/NOISE EMISSION WARRANTY

6-1

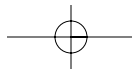
If you believe that your vehicle has a defect that could cause a crash, injury or death, you should immediately inform American IronHorse Motorcycle Company at (817) 665-2000, in addition to the National Highway Traffic Safety Administration (NHTSA). If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. NHTSA cannot become involved in individual problems between you, your dealer or American IronHorse, however. To contact NHTSA, you may either call the Auto Safety Hot Line toll free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the hot line.

American IronHorse warrants that the exhaust system, at the time of sale, meets all applicable U.S. EPA Federal Noise Standards. This warranty extends to the first person who buys this exhaust system for purposes other than resale and all subsequent buyers.

Motorcycle Exhaust System Noise Emission Control Information: This American IronHorse® exhaust system, J15005106, meets EPA noise emission requirements of 80db (A) for the following motorcycles: SY, SC, J15005206 for TX, SZ and J15005206 for TH, SJ. Installation of this exhaust system on motorcycle models not specified may violate Federal law.

Warranty claims should be directed to:

**AMERICAN IRONHORSE MOTORCYCLE COMPANY**  
**4600 BLUE MOUND ROAD**  
**FORT WORTH, TEXAS 76106**



## 6-2 TAMPERING

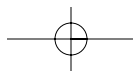
Tampering with noise control systems is prohibited. Federal law prohibits the following acts or causing thereof:

1. The removal or rendering inoperative by any person (other than for purposes of maintenance, repair or replacement) of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to the motorcycle's sale or delivery to the ultimate purchaser or after purchase.
2. The use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among these acts presumed to constitute tampering are the acts listed below:

1. Removal of or puncturing the muffler, baffles, header pipes or any other component that conducts exhaust gasses.
2. Removal or puncturing of any part of the intake system.
3. Lack of proper maintenance.
4. Replacing any moving part of the vehicle or parts of the exhaust or intake system with parts other than those specified by the manufacturer.

**WARNING: THIS PRODUCT SHOULD BE CHECKED FOR REPAIR OR REPLACEMENT IF THE MOTORCYCLE NOISE HAS INCREASED SIGNIFICANTLY THROUGH USE. OTHERWISE, THE OWNER MAY BECOME SUBJECT TO PENALTIES UNDER STATE AND LOCAL ORDINANCES.**



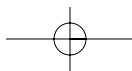


### California Emission Control Warranty Statements

The California Air Resources Board and American IronHorse Motorcycle Company are pleased to explain the emission control system warranty on your motorcycle. In California, new motor vehicles must be designed, built and equipped to meet the state's stringent anti-smog standards. American IronHorse must warrant the emission control system on your motorcycle for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your motorcycle.

Your emission control system may include parts such as the carburetor or fuel-injection system, the ignition system, catalytic converter and engine computer. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, American IronHorse will repair your motorcycle at no cost to you including diagnosis, parts and labor. (For CA models only new carbon air filters will be provided at no cost up to 30,000 km)



## 6-3 EMISSION CONTROL SYSTEM WARRANTY

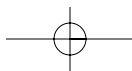
### **Manufacturer's Warranty Coverage**

For five years or 18,641 miles (30,000 kilometers), whichever occurs first:

If an emission-related part on your motorcycle is defective, the part will be repaired or replaced by American IronHorse Motorcycle Company. This is your emission control system DEFECTS WARRANTY.

American IronHorse Motorcycle Company warrants that each new American IronHorse motorcycle manufactured on or after January 1978, includes as standard equipment a headlight, taillight and stoplight, and is street legal:

- A.** is designed, built and equipped so as to conform at the time of initial retail purchase with all applicable regulations of the United States Environmental Protection Agency and the California Air Resources Board; and
- B.** is free from defects in material and workmanship which cause such motorcycle to fail to conform with applicable regulations of the United States Environmental Protection Agency or the California Air Resources Board for a period of use, depending on the engine displacement, of 12,000 kilometers (7456 miles), if the motorcycle's engine displacement is less than 170 cubic centimeters; of 18,000 kilometers (11,185 miles), if the motorcycle's engine displacement is equal to or greater than 170 cubic centimeters but less than 280 centimeters; or of 30,000 kilometers (18,641 miles), if the motorcycle's engine displacement is 280 cubic centimeters or greater; or five years from the date of initial retail delivery, whichever occurs first.



## LIMITED WARRANTY ON EMISSION CONTROL SYSTEM

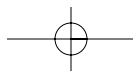
6-4

### I. COVERAGE

Warranty defects shall be remedied during customary business hours at any authorized American IronHorse motorcycle dealer located within the United States of America in compliance with the Clean Air Act and applicable regulations of the United States Environmental Protection Agency and the California Air Resources Board. Any part or parts replaced under this warranty shall become the property of American IronHorse.

In the state of California only, emission-related warranted parts are specifically defined by the state's Emission Warranty Parts List. These warranted parts are: carburetor and internal parts; intake manifold; fuel injection system; spark advance mechanism; crankcase breather; air cutoff valves; fuel tank cap for evaporative emission controlled vehicles; pressure control valve; fuel/vapor separator; canister; igniters; breaker governors; ignition coils; ignition wires; ignition points; condensers; spark plugs if failure occurs prior to the first scheduled replacement; and hoses, clamps fittings and tubing used directly in these parts. Since emission related parts may vary from model to model, certain models may not contain all of these parts and certain models may contain functionally equivalent parts.

In the state of California only, Emission Control System emergency repairs, as provided for in the California Administrative Code, may be performed by other than an authorized American IronHorse dealer. An emergency situation occurs when an authorized American IronHorse dealer is not reasonably available, a part is not available within 30 days or a repair is not completed within 30 days. Any replacement part can be used in an emergency repair. American IronHorse will reimburse the owner for the expenses, including diagnosis, not to exceed American IronHorse's suggested retail price for all warranted parts replaced and labor charges based on American IronHorse's recommended time allowance for the warranty repair and the geographically appropriate hourly labor



## 6-4 LIMITED WARRANTY ON EMISSION CONTROL SYSTEM

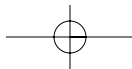
rate. The owner may be required to keep receipts and failed parts in order to receive compensation.

### II. LIMITATIONS

This Emission Control System warranty shall not cover any of the following:

- A. Repair or replacement required as a result of:
  - 1. Accident
  - 2. Misuse
  - 3. Lack of required maintenance
  - 4. Repairs improperly performed or replacements improperly installed
  - 5. Use of replacement parts or accessories not conforming to American IronHorse specifications, which adversely effect performance
  - 6. Use in competitive racing or related events
- B. Inspections, replacement of parts and other services and adjustments required for required maintenance.
- C. Any motorcycle on which the odometer mileage has been changed so that actual mileage cannot be readily determined.

### III. LIMITED LIABILITY



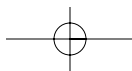
## LIMITED WARRANTY ON EMISSION CONTROL SYSTEM 6-4

- A.** The liability of American IronHorse under this Emission Control Systems Warranty is limited solely to the remedying of defects in material or workmanship by an authorized American IronHorse motorcycle dealer at its place of business during customary business hours. This warranty does not cover inconvenience or loss of use of the motorcycle or transportation of the motorcycle to or from the American IronHorse dealer. American IronHorse SHALL NOT BE LIABLE FOR ANY OTHER EXPENSES, LOSS OR DAMAGE, WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.
- B.** No express emission control systems warranty is given by American IronHorse except as specifically set forth herein. Any emission control system warranty implied by law, including any warranty of merchantability or fitness for a particular purpose, is limited to the express emission control systems warranty terms stated in this warranty. The foregoing statements of warranty are exclusive and in lieu of all other remedies. Some states do not allow limitations on how long an implied warranty lasts so the above limitations may not apply to you.
- C.** No dealer is authorized to modify this American IronHorse Limited Emission Control System Warranty.

#### **IV. LEGAL RIGHTS**

This warranty gives you specific legal rights, and you also may have other rights that vary from state to state.

#### **V. THIS WARRANTY IS IN ADDITION TO THE AMERICAN IRONHORSE LIMITED MOTORCYCLE WARRANTY.**

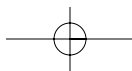


## 6-4 LIMITED WARRANTY ON EMISSION CONTROL SYSTEM

### VI. ADDITIONAL INFORMATION

Any replacement part that is equivalent in performance and durability may be used in the performance of any maintenance or repairs. American IronHorse, however, is not liable for these parts. The owner is responsible for the performance of all required maintenance. Such maintenance may be performed at a service establishment or by any individual. The warranty period begins on the date the motorcycle is delivered to an ultimate purchaser.

### LIMITED WARRANTY



American IronHorse Motorcycle Company warrants to the initial purchaser and any subsequent authorized transferees that American IronHorse will repair or replace, without charge, any parts found to be defective in factory materials or workmanship under normal use under the following terms and conditions:

**1. DURATION**

This limited warranty is valid for a period of:

- motorcycles manufactured with 111 cubic inch – 24 months/unlimited miles
- motorcycles manufactured with 117 cubic inch – 12 months/unlimited miles
- motorcycles manufactured with 124 cubic inch – six months/unlimited miles

**2. INITIAL QUALIFICATION**

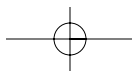
To qualify for the limited warranty, the purchaser (and the selling dealer if sold through an authorized dealer) must complete the Warranty Registration documents and return it to American IronHorse within five days after delivery.

**3. TRANSFERENCE**

Any unexpired portion of this limited warranty may be transferred to a purchaser of said motorcycle upon the receipt of written authorization. Such request must be made in writing by registered mail or facsimile transmission. Upon compliance with certain information and vehicle inspection requirements, American IronHorse will transfer the remaining portion of the unexpired limited warranty to the transferee.

**4. EXCLUSIONS**

The following circumstances constitute exclusions from the limited warranty:



## 6-5 LIMITED WARRANTY

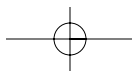
- a. Operation of the vehicle without performance of American IronHorse prescribed periodic maintenance.
- b. Abusive operation of the vehicle, "off-the-road" operation, racing or similar competitive use.
- c. Alteration to the vehicle outside of original factory specifications or improper storage.
- d. Removal or tampering with vehicle odometer.
- e. Abusive use of vehicle by over-revving due to missed gear change.

### 5. LIMITATIONS

This limited warranty does not apply to:

- a. Deterioration of paint, chrome, seats, trim or other parts and accessories due to normal wear and tear.
- b. Parts and labor for any normal recommended maintenance items including but not limited to the following: battery maintenance, oil and oil filter change, spark plugs, lubrication, cleansing of fuel system and adjustments to engine, brakes, clutch, belt and chains.

In order to obtain service under this limited warranty, return your vehicle at your expense to the selling dealer. Should a location prove difficult due to relocation, touring or similar situations, contact American IronHorse for the name of the nearest authorized provider of service under this limited warranty. Under no circumstance will





American IronHorse accept responsibility for any expenses incurred by anyone other than the selling dealer or other authorized service provider in carrying out warranty activities under this agreement. Such warranty activities through the selling dealer and other authorized service providers must receive prior written approval from American IronHorse. Such warranty activities will be provided by authorized providers during normal business hours and scheduled by the provider consistent with existing workloads and parts availability.

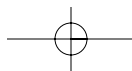
**IMPORTANT NOTICE**

AMERICAN IRONHORSE DEALERS ARE INDEPENDENTLY OWNED AND OPERATED AND AS SUCH AMERICAN IRONHORSE IS NOT RESPONSIBLE IN ANY WAY FOR ANY PARTS, LABOR, ALTERATIONS OR MODIFICATIONS MADE TO SAID MOTORCYCLE.

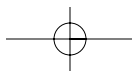
THIS WRITTEN LIMITED WARRANTY IS THE TOTAL WARRANTY PROVIDED BY AMERICAN IRONHORSE. NO OTHER EXPRESS OR IMPLIED WARRANTIES ARE VALID.

AMERICAN IRONHORSE SHALL NOT BE LIABLE FOR ANY DAMAGES CLAIMED BY PURCHASER DUE TO LOSS OF USE, COMMERCIAL LOSS OR ANY OTHER CLAIMS OF LOSS DUE TO NON-NORMAL FUNCTIONING OF SAID MOTORCYCLE.

See your authorized dealer for a copy of the American IronHorse Warranty.



This page was intentionally left blank.



## FIGURES

**FIGURE 1**



**FIGURE 5**



**FIGURE 6.4**



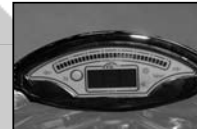
**FIGURE 2**



**FIGURE 6.1**



**FIGURE 7**



**FIGURE 3**



**FIGURE 6.2**



**FIGURE 4**



**FIGURE 6.3**



## FIGURES

**FIGURE 8.1**



**FIGURE 11**



**FIGURE 13.2**



**FIGURE 8.2**



**FIGURE 12.1**



**FIGURE 14**



**FIGURE 9**



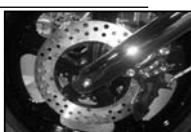
**FIGURE 12.2**



**FIGURE 10**



**FIGURE 13.1**

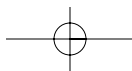


**FIGURE 1**

**IGNITION SWITCH**

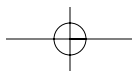


Ignition Switch



**FIGURE 2**

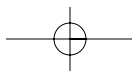
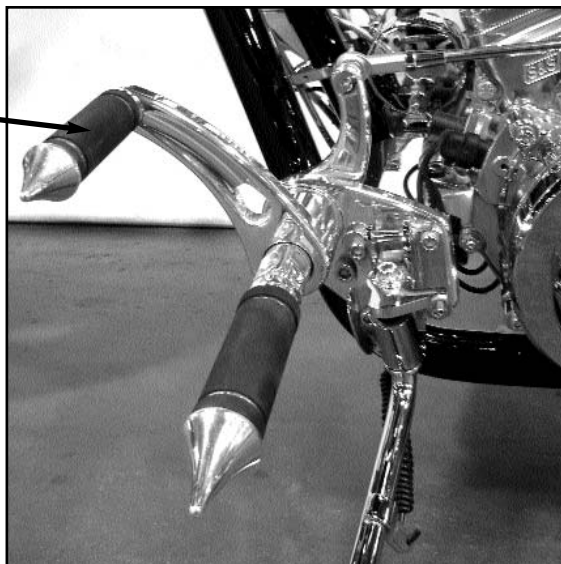
**ALL MODELS  
FIGURE 2**



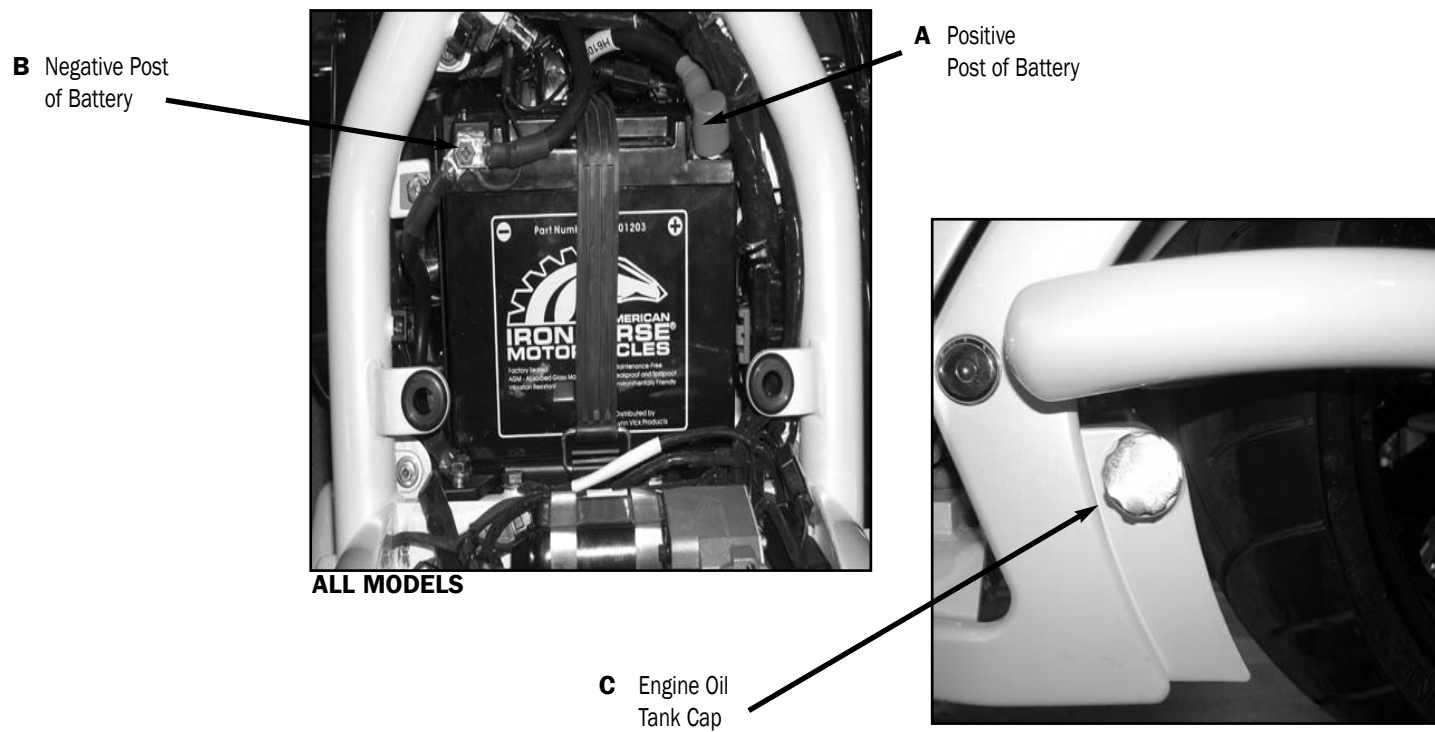
**FIGURE 3**

**ALL MODELS**

Gear  
Shifter  
Lever



**FIGURE 4**





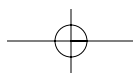
**FIGURE 5**

**ALL MODELS**

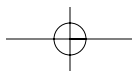
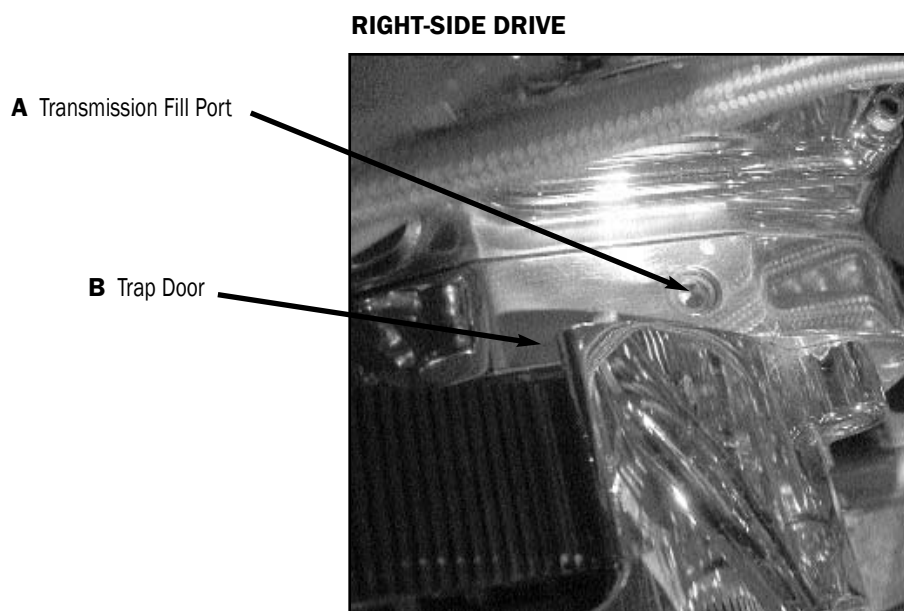
**A** Rear Brake Lever



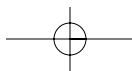
**B** Rear Brake Master Cylinder



**FIGURE 6.1**



This page was intentionally left blank.

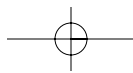
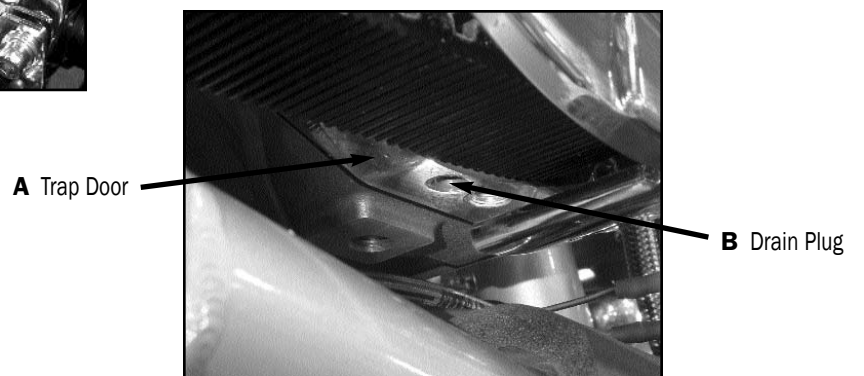


## FIGURES 6.2 AND 6.3

**RIGHT-SIDE DRIVE  
FIGURE 6.2**

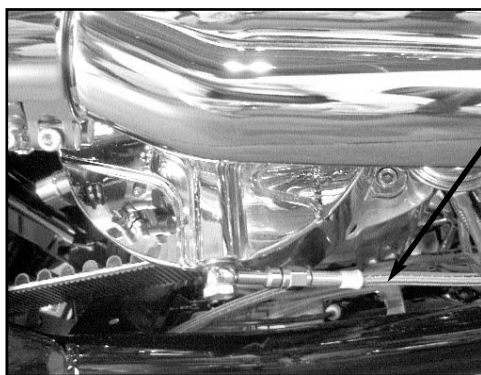


**RIGHT-SIDE DRIVE  
FIGURE 6.3**



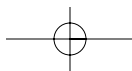
**FIGURES 6.4**

**ALL MODELS  
FIGURE 6.4**



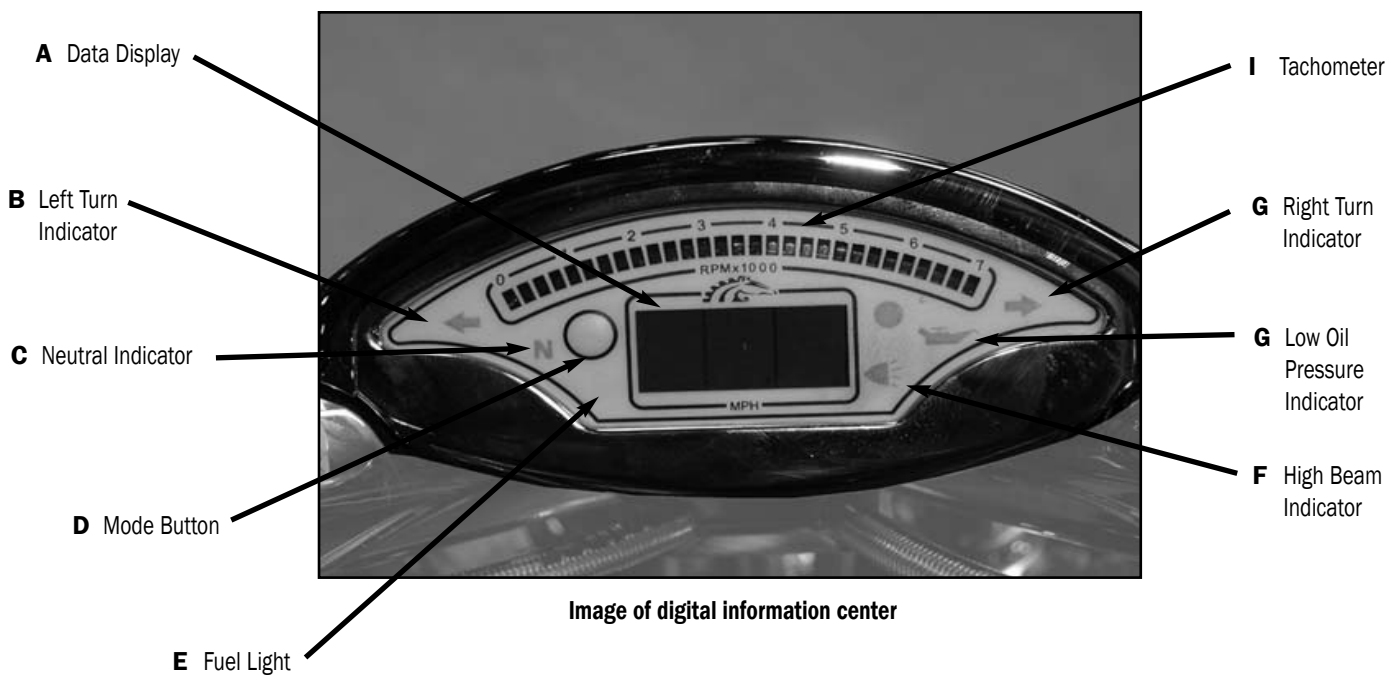
Hydraulic Clutch  
Hose

**Image of right-side drive**



**FIGURE 7**

**DIGITAL INFORMATION CENTER**



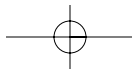
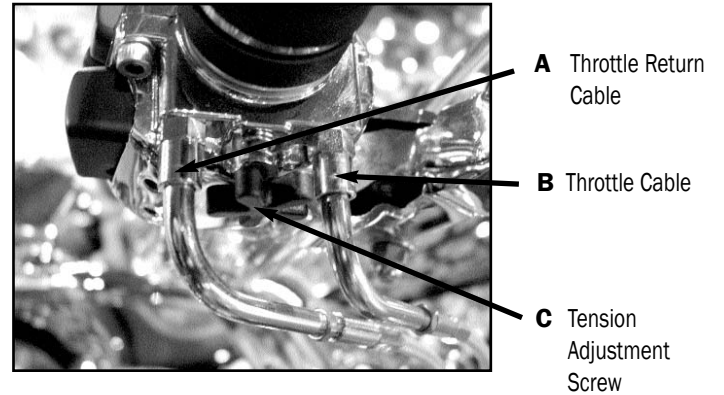
**Image of digital information center**

**FIGURES 8.1 AND 8.2**

**RIGHT HAND CONTROL AND SWITCHES  
FIGURE 8.1**

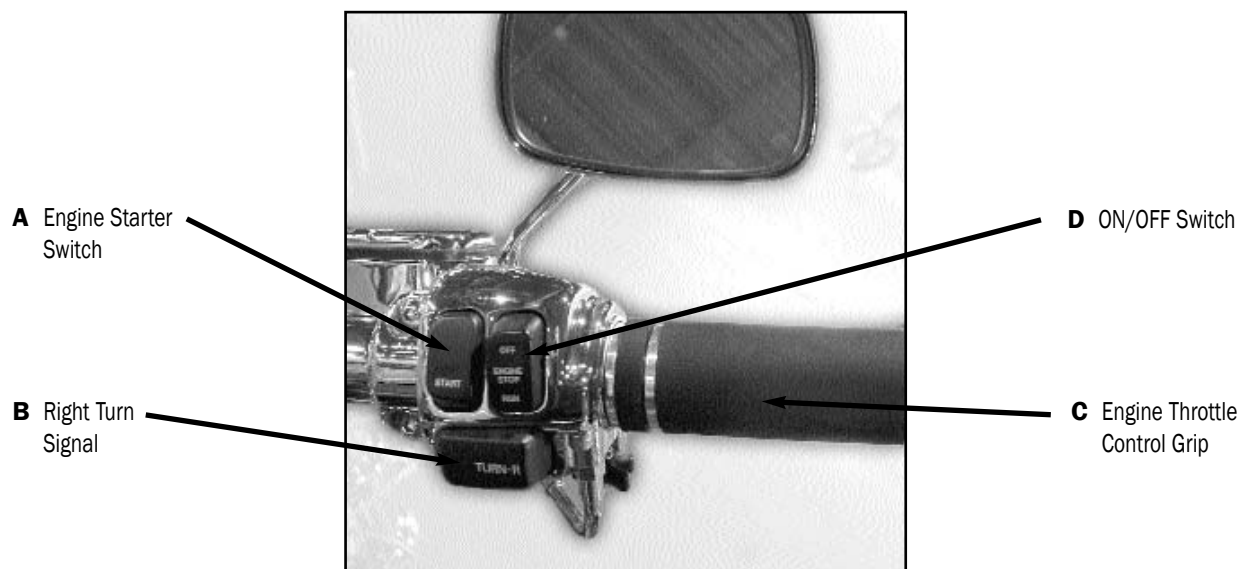


**RIGHT HAND CONTROL (UNDERSIDE)  
FIGURE 8.2**



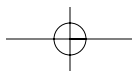
**FIGURE 8.3**

**TEXAS CHOPPER**



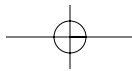
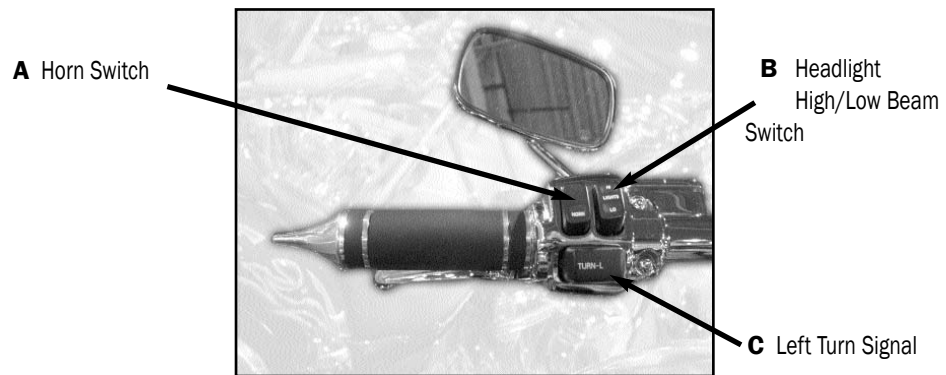


This page was intentionally left blank.



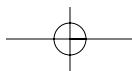
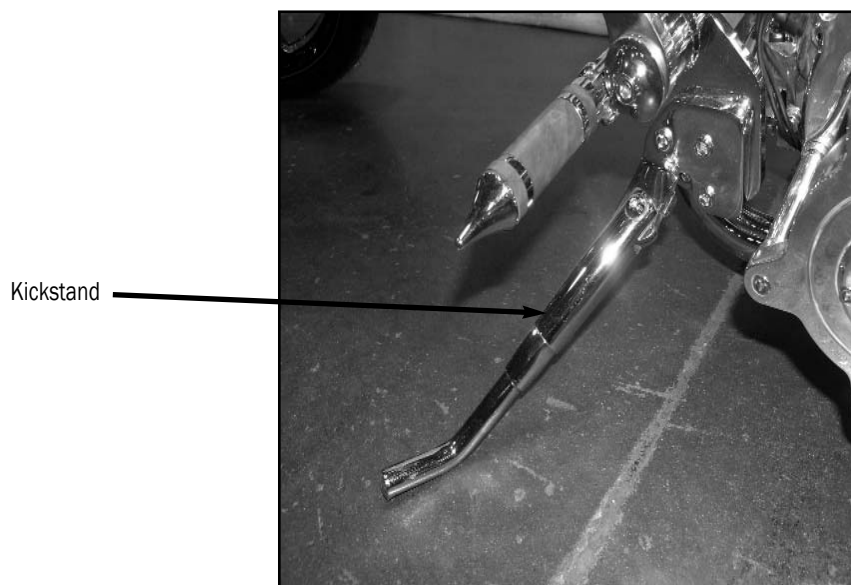
**FIGURE 9**

**LEFT HAND CONTROL AND SWITCHES  
FIGURE 11**



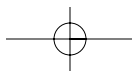
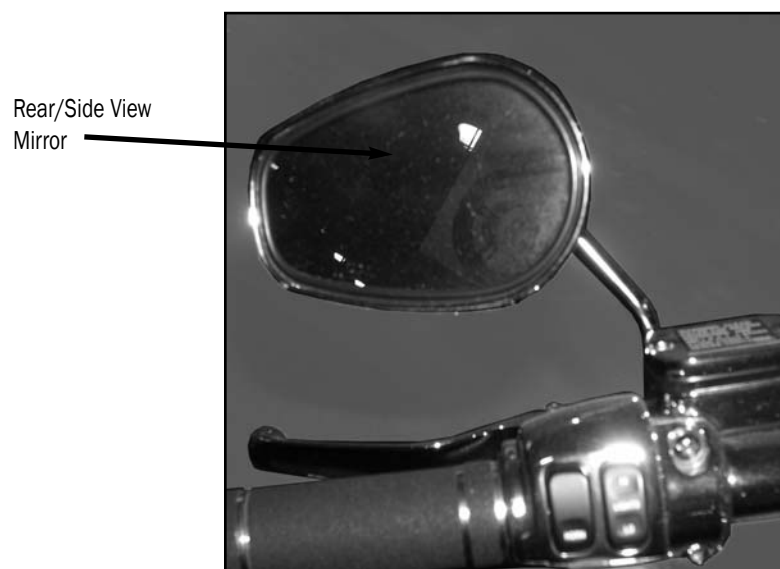
**FIGURE 10**

**KICKSTAND**



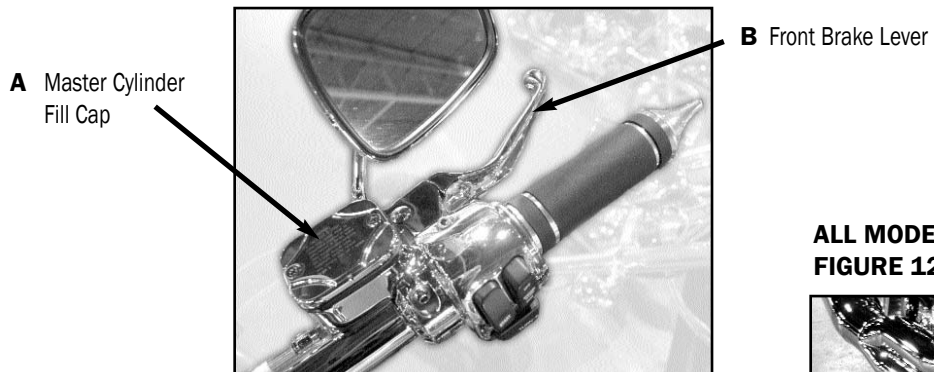
**FIGURE 11**

**REAR/SIDE VIEW MIRROR**

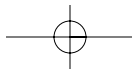
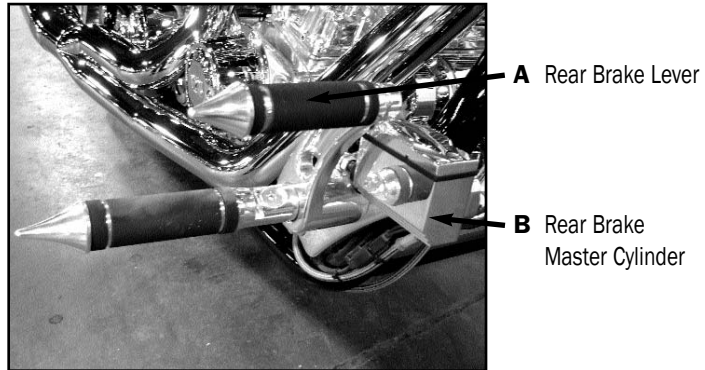


**FIGURES 12.1 AND 12.2**

**ALL MODELS  
FIGURE 12.1**



**ALL MODELS  
FIGURE 12.2**



## FIGURES 13.1 AND 13.2

**FRONT LEFT ROTOR AND CALIPER**  
**FIGURE 13.1**

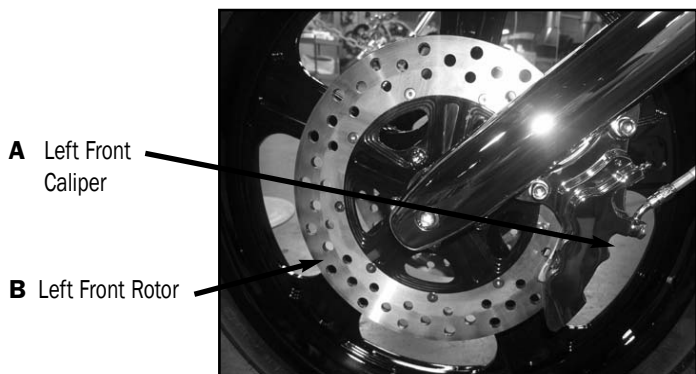


Image of dual disc front-end brakes (left side)

**FRONT RIGHT ROTOR AND CALIPER**  
**FIGURE 13.2**

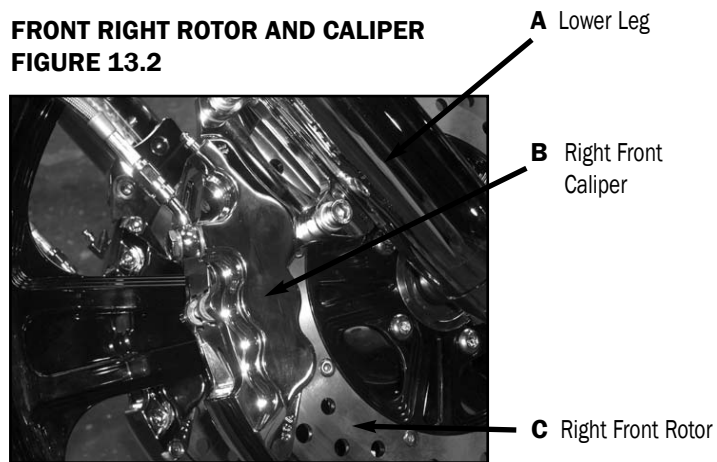
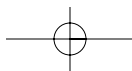
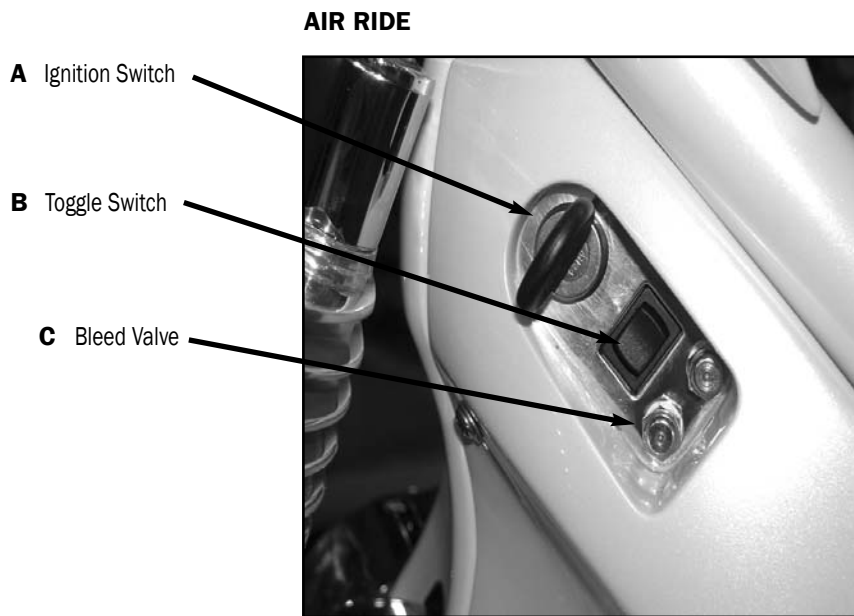


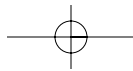
Image of dual disc front-end brakes (right side)



**FIGURE 14**



**Image of air ride controls**



## MAINTENANCE RECORDS

**500 MILE  
(800 km)  
MAINTENANCE**

\_\_\_\_\_

**Date**

\_\_\_\_\_

**Mileage**

\_\_\_\_\_

**Dealer (or other) Signature**

**OWNER RECORD**

**500 MILE  
(800 km)  
MAINTENANCE**

**You are authorized to perform the applicable maintenance and lubrication services. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.**

\_\_\_\_\_

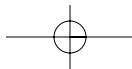
**Owner's Signature**

\_\_\_\_\_

**VIN**

**Date** \_\_\_\_\_

**Mileage** \_\_\_\_\_





## MAINTENANCE RECORDS

**2000 MILE  
(3200 km)  
MAINTENANCE**

**2000 MILE  
(3200 km)  
MAINTENANCE**

**You are authorized to perform the applicable maintenance and lubrication services. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**Date** \_\_\_\_\_  
**Mileage** \_\_\_\_\_

## MAINTENANCE RECORDS

**4000 MILE  
(6400 km)  
MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

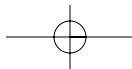
**4000 MILE  
(6400 km)  
MAINTENANCE**

**You are authorized to perform the applicable maintenance and lubrication services. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.**

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

**Date** \_\_\_\_\_  
**Mileage** \_\_\_\_\_



## MAINTENANCE RECORDS

**6000 MILE  
(9600 km)  
MAINTENANCE**

**6000 MILE  
(9600 km)  
MAINTENANCE**

**You are authorized to perform the applicable maintenance and lubrication services. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**Date** \_\_\_\_\_  
**Mileage** \_\_\_\_\_

## MAINTENANCE RECORDS

**8000 MILE  
(12,800 km)  
MAINTENANCE**

\_\_\_\_\_

**Date**

\_\_\_\_\_

**Mileage**

\_\_\_\_\_

**Dealer (or other) Signature**

**OWNER RECORD**

**8000 MILE  
(12,800 km)  
MAINTENANCE**

**You are authorized to perform the applicable maintenance and lubrication services. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.**

\_\_\_\_\_

**Owner's Signature**

\_\_\_\_\_

**VIN**

**Date** \_\_\_\_\_

**Mileage** \_\_\_\_\_

