



2011 Harley-Davidson Touring Models Service Manual

99483-11

©2010 H-D.

MAINTENANCE

1.1 FASTENER TORQUE VALUES

Fastener Torque Values in this Chapter.....1-1

1.2 GENERAL

Servicing a New Motorcycle.....	1-3
Safe Operating Maintenance.....	1-3
Shop Practices.....	1-3
Repair Notes.....	1-3
Safety.....	1-3
Removing Parts.....	1-3
Cleaning.....	1-3
Disassembly and Assembly.....	1-4
Checking Torques on Fasteners.....	1-4
Magnetic Parts Trays.....	1-4
Repair and Replacement Procedures.....	1-4
Hardware and Threaded Parts.....	1-4
Threadlocking Agents.....	1-4
Wiring, Hoses and Lines.....	1-4
Instruments and Gauges.....	1-4
Bearings.....	1-4
Bushings.....	1-4
Gaskets.....	1-4
Lip-Type Seals.....	1-4
O-Rings (Pre-Formed Packings).....	1-4
Gears.....	1-5
Shafts.....	1-5
Part Replacement.....	1-5
Exhaust System Leakage.....	1-5
Cleaning.....	1-5
Part Protection.....	1-5
Cleaning Process.....	1-5
Rust or Corrosion Removal.....	1-5
Bearings.....	1-5
Tool Safety.....	1-5
Air Tools.....	1-5
Wrenches.....	1-5
Pliers/Cutters/Pry Bars.....	1-5
Hammers.....	1-6
Punches/Chisels.....	1-6
Screwdrivers.....	1-6
Ratchets and Handles.....	1-6
Sockets.....	1-6
Storage Units.....	1-6

1.3 FUEL AND OIL

Fuel.....	1-7
Gasoline Blends.....	1-7
Engine Lubrication.....	1-7
Winter Lubrication.....	1-8

1.4 BULB REQUIREMENTS

General.....	1-9
--------------	-----

1.5 MAINTENANCE SCHEDULE

General.....	1-11
--------------	------

1.6 ENGINE OIL AND FILTER

Checking Oil Level.....	1-15
Oil Level Cold Check.....	1-15
Oil Level Hot Check.....	1-15
Changing Oil and Oil Filter.....	1-16

1.7 AIR CLEANER AND EXHAUST SYSTEM

Removal.....	1-18
Installation.....	1-18
Exhaust System Leak Check.....	1-18

1.8 TIRES AND WHEELS

General.....	1-20
Tires.....	1-20
Tire Replacement.....	1-20
Inspection.....	1-20
When To Replace Tires.....	1-20
Wheel Bearings.....	1-21
Wheel Spokes.....	1-21
Identify Wheel Spoke Groups.....	1-21
Wheel Spoke Adjustment.....	1-21

1.9 PRIMARY CHAINCASE LUBRICANT

General.....	1-23
Changing Primary Chaincase Lubricant.....	1-23

1.10 TRANSMISSION LUBRICANT

Transmission Lubrication.....	1-25
General.....	1-25
Check Lubricant Level.....	1-25
Changing Transmission Fluid.....	1-25

1.11 CLUTCH

Adjustment.....	1-27
-----------------	------

1.12 DRIVE BELT AND SPROCKETS

General.....	1-29
Cleaning.....	1-29
Inspection.....	1-29
Sprockets.....	1-29
Drive Belt.....	1-29
Checking Drive Belt Deflection.....	1-31
Setting Belt Deflection.....	1-31
Adjustment.....	1-31
Assembly.....	1-33

1.13 COMPENSATOR SPROCKET ISOLATOR

Inspection.....	1-34
-----------------	------

1.14 CABLE AND CHASSIS LUBRICATION

General.....	1-35
Steering Head Bearings.....	1-35
Jiffy Stand.....	1-35
Miscellaneous Lubrication.....	1-35
Hinges, Latches, Etc.....	1-35

1.15 BRAKES

Fluid Inspection.....	1-36
-----------------------	------

1.16 BRAKE PADS AND DISCS

Inspection.....	1-37
Brake Pads.....	1-37
Brake Disc Thickness.....	1-37
Brake Disc Lateral Runout.....	1-37
Brake Pad Replacement.....	1-37
Rear Brake Caliper.....	1-37
Front Brake Calipers.....	1-39

TABLE OF CONTENTS

1.17 SPARK PLUGS		
Inspection.....	1-41	
Spark Plug Cable Inspection.....	1-41	
1.18 FRONT FORK OIL		
Replacing Fork Oil.....	1-43	
1.19 SUSPENSION ADJUSTMENTS		
General.....	1-44	
1.20 STEERING HEAD BEARINGS		
Lubrication.....	1-46	
Checking.....	1-46	
Adjustment.....	1-47	
1.21 HEADLAMP ALIGNMENT		
Headlamp Alignment.....	1-48	
Headlamp Adjustment: Single Headlamp Models.....	1-48	
Headlamp Adjustment: Dual Headlamp Models.....	1-49	
Auxiliary Lamp Alignment.....	1-49	
1.22 CRITICAL FASTENERS		
Inspection.....	1-51	
Checking Torques on Fasteners.....	1-51	
1.23 BATTERY MAINTENANCE		
General.....	1-53	
Cleaning and Inspection.....	1-54	
Battery.....	1-54	
Disconnection and Removal.....	1-54	
Installation and Connection.....	1-54	
Voltmeter Test.....	1-55	
Voltmeter Test.....	1-55	
Charging Battery.....	1-55	
Safety Precautions.....	1-55	
Using a Battery Charger.....	1-56	
Storage.....	1-57	
1.24 ENGINE MOUNTS		
Inspection.....	1-58	
General.....	1-58	
Stabilizer Link.....	1-58	
Front Engine Mount.....	1-58	
Rear Frame Fasteners.....	1-58	
1.25 STORAGE		
General.....	1-59	
Placing in Storage.....	1-59	
Removal from Storage.....	1-59	
1.26 TROUBLESHOOTING		
General.....	1-61	
Engine.....	1-61	
Starter Motor Does Not Operate or Does Not Turn Engine Over	1-61	
Engine Turns Over But Does Not Start	1-61	
Starts Hard.....	1-61	
Starts But Runs Irregularly or Misses	1-61	
A Spark Plug Fouls Repeatedly.....	1-62	
Pre-Ignition or Detonation (Knocks or Pings).....	1-62	
Overheating.....	1-62	
Valve Train Noise.....	1-62	
Excessive Vibration.....	1-62	
Check Engine Light Illuminates During Operation.....	1-62	
Lubrication System.....	1-62	
Oil Does Not Return To Oil Reservoir.....	1-62	
Engine Uses Too Much Oil Or Smokes Excessively.....	1-62	
Engine Leaks Oil From Cases, Push Rods, Hoses, Etc.....	1-62	
Low Oil Pressure.....	1-63	
High Oil Pressure.....	1-63	
Electrical System.....	1-63	
Alternator Does Not Charge.....	1-63	
Alternator Charge Rate Is Below Normal.....	1-63	
Speedometer Operates Erratically.....	1-63	
Transmission.....	1-63	
Shifts Hard.....	1-63	
Jumps Out Of Gear.....	1-63	
Clutch Slips.....	1-63	
Clutch Drags Or Does Not Release.....	1-63	
Clutch Chatters.....	1-63	
Handling.....	1-63	
Irregularities.....	1-63	
Brakes.....	1-64	
Brake Does Not Hold Normally.....	1-64	
CHASSIS		
2.1 FASTENER TORQUE VALUES		
Fastener Torque Values in this Chapter.....		2-1
2.2 SPECIFICATIONS		
Specifications.....	2-6	
Chassis Specifications.....	2-6	
Tire Specifications.....	2-7	
2.3 VEHICLE IDENTIFICATION NUMBER (V.I.N.)		
Vehicle Identification Number: Touring Models.....		2-9
2.4 FRONT WHEEL		
Removal.....	2-11	
Cleaning and Inspection.....	2-12	
Installation.....	2-12	
2.5 REAR WHEEL		
Removal.....	2-14	
Cleaning and Inspection.....	2-15	
Installation.....	2-16	
2.6 REAR WHEEL COMPENSATOR		
Isolator Replacement.....	2-18	
Removal.....	2-18	
Installation.....	2-18	
Sprocket Bearing Replacement.....	2-18	
Removal.....	2-18	
Installation.....	2-18	
2.7 WHEEL LACING: FRONT RIM		
Wheel Lacing: Angle Flange Hub.....	2-21	

TABLE OF CONTENTS

2.8 WHEEL LACING: 16 INCH REAR RIM	
Wheel Lacing: 16 In. Rear Wheel.....	2-23
2.9 CHECKING AND TRUING WHEELS	
General.....	2-26
Checking Wheel Runout.....	2-26
Checking Lateral Runout.....	2-26
Checking Radial Runout.....	2-26
Laced Wheel Rim Offset.....	2-26
Truing Laced Wheels.....	2-28
Radial Runout.....	2-28
Lateral Runout.....	2-29
2.10 SEALED WHEEL BEARINGS	
Inspection.....	2-30
Removal.....	2-30
Installation.....	2-31
2.11 TIRES	
General.....	2-33
Removal.....	2-33
Cleaning, Inspection and Repair.....	2-34
Installation.....	2-34
Tube Type Tires.....	2-34
Tubeless Tires.....	2-34
Checking Tire Runout.....	2-35
Lateral Runout.....	2-35
Radial Runout.....	2-35
Wheel Balancing.....	2-36
Weights.....	2-36
2.12 FRONT BRAKE MASTER CYLINDER	
General.....	2-37
Removal and Disassembly.....	2-37
Removal.....	2-37
Disassembly.....	2-37
Cleaning and Inspection.....	2-39
Assembly and Installation.....	2-39
Assembly.....	2-39
Installation.....	2-39
Front Brake Line: Non-ABS Equipped.....	2-39
Removal.....	2-39
Installation.....	2-40
2.13 FRONT BRAKE CALIPER	
Removal.....	2-42
Installation.....	2-42
2.14 REAR BRAKE MASTER CYLINDER	
General.....	2-43
Removal and Disassembly.....	2-43
Removal.....	2-43
Disassembly.....	2-44
Cleaning and Inspection.....	2-46
Assembly and Installation.....	2-46
Assembly.....	2-46
Installation.....	2-46
Rear Brake Line: Non-ABS Equipped.....	2-46
Removal.....	2-46
Installation.....	2-48
2.15 REAR BRAKE CALIPER	
Removal.....	2-49
Installation.....	2-49
2.16 BLEEDING BRAKES	
General.....	2-50
Procedure.....	2-50
2.17 FRONT FORK	
Changing Fork Oil.....	2-52
Draining.....	2-52
Filling.....	2-52
Removal.....	2-53
Disassembly.....	2-53
Cleaning and Inspection.....	2-55
Assembly.....	2-56
Installation.....	2-56
2.18 STEERING HEAD BEARINGS	
Removal.....	2-58
Inspection.....	2-59
Installation.....	2-60
2.19 REAR AIR SUSPENSION	
Check for Air Leaks.....	2-61
Compression Fitting.....	2-61
Air Valve Assembly.....	2-61
Air Tubes.....	2-61
2.20 REAR SHOCK ABSORBERS	
Removal.....	2-63
Cleaning and Inspection.....	2-63
Disassembly and Assembly.....	2-63
Installation.....	2-63
2.21 REAR FORK	
Removal.....	2-64
Disassembly and Assembly.....	2-64
Bearing Removal.....	2-64
Bearing Installation.....	2-65
Pivot Shaft/Mount Disassembly.....	2-65
Installation.....	2-66
2.22 CLUTCH CABLE	
Removal.....	2-67
Installation.....	2-67
2.23 HANDLEBARS	
Adjustment.....	2-70
Removal.....	2-70
Installation.....	2-71
Left Handgrip.....	2-72
Removal.....	2-72
Installation.....	2-72
Heated Handgrips.....	2-72
Remove Left Handgrip.....	2-72
Install Left Handgrip.....	2-73
Remove Right Handgrip.....	2-73
Install Right Handgrip.....	2-73
Rubber Mounts.....	2-73

TABLE OF CONTENTS

Removal.....	2-73	Tether Brackets.....	2-87
Installation.....	2-74	Removing Tether Bracket from Tour-Pak.....	2-87
2.24 MIRRORS		Removing Tether Bracket from Tour-Pak Lid.....	2-87
All Models Except FLHX.....	2-75	Installing Tether Bracket on Tour-Pak Lid.....	2-87
Removal.....	2-75	Installing Tether Bracket on Tour-Pak.....	2-87
Installation.....	2-75	Luggage Rack.....	2-87
FLHX.....	2-75		
Removal.....	2-75		
Installation.....	2-75		
2.25 SEAT			
Seat: Models without Tour-Pak.....	2-76	2.30 TOUR-PAK LIGHTS	
Removal.....	2-76	General.....	2-88
Installation.....	2-76	Side Marker Lights (if equipped).....	2-88
Seat: Models with Tour-Pak.....	2-76	Removal.....	2-88
Removal.....	2-76	Installation.....	2-88
Installation.....	2-77	Tour-Pak Lights Harness.....	2-88
Seat: Road King Models.....	2-77	Removal.....	2-88
Removal.....	2-77	Installation.....	2-88
Installation.....	2-77	Wrap-Around Lights (if equipped).....	2-89
Seat Retention Nut Replacement.....	2-77	Bulb Replacement.....	2-89
Seat Bumper.....	2-78	Removal.....	2-89
2.26 SADDLEBAGS		Installation.....	2-90
Removal.....	2-79		
Installation.....	2-79		
2.27 SADDLEBAG SERVICE		2.31 TOUR-PAK BACKREST	
Saddlebag Hardware.....	2-80	Passenger Backrest.....	2-91
Removal.....	2-80	Removal.....	2-91
Installation.....	2-81	Installation.....	2-91
Saddlebag Guard/Support Rail.....	2-81	Rubber Isolators.....	2-91
Removal.....	2-81	Removal.....	2-91
Installation.....	2-81	Installation.....	2-91
2.28 TOUR-PAK		Passenger Backrest Flap.....	2-92
Removal/Installation.....	2-83	Removal.....	2-92
Removal.....	2-83	Installation.....	2-92
Installation.....	2-83		
Adjustment.....	2-84	2.32 TOUR-PAK SPEAKER BOX	
Luggage Rack/Tour-Pak Support.....	2-84	Speaker Box.....	2-93
Removal.....	2-84	Removal.....	2-93
Assembly and Installation.....	2-84	Installation.....	2-93
2.29 TOUR-PAK SERVICE			
Lockset.....	2-85	2.33 LOWER FAIRING AND ENGINE GUARD	
Removal.....	2-85	Lower Fairing.....	2-94
Installation.....	2-85	Removal.....	2-94
Hinges.....	2-85	Disassembly.....	2-94
Removal.....	2-85	Assembly.....	2-95
Installation.....	2-85	Installation.....	2-95
Latches/Lockset Catch.....	2-86	Serrated Washer Replacement.....	2-95
Removal.....	2-86	Removal.....	2-95
Installation.....	2-86	Installation.....	2-95
Catches.....	2-86	Engine Guard.....	2-95
Removal.....	2-86	Removal.....	2-95
Installation.....	2-86	Installation.....	2-95
Tether.....	2-86		
Removal.....	2-86		
Installation.....	2-86		
		2.34 UPPER FAIRING AND WINDSHIELD: FORK MOUNTED FAIRING MODELS	
		Outer Fairing and Windshield.....	2-97
		Removal.....	2-97
		Installation.....	2-97
		2.35 FAIRING CAP: FORK MOUNTED FAIRING MODELS	
		Fairing Cap.....	2-98
		Removal.....	2-98
		Installation.....	2-98

TABLE OF CONTENTS

2.36 INNER FAIRING: FORK MOUNTED FAIRING MODELS		2.44 HEADLAMP NACELLE: ROAD KING MODELS	
Removal.....	2-99	Removal.....	2-119
Installation.....	2-101	Installation.....	2-120
2.37 AIR DEFLECTORS			
Air Deflectors.....	2-103	Removal.....	2-121
Removal.....	2-103	Installation.....	2-121
Installation.....	2-103		
Mid-Frame Air Deflectors.....	2-103	2.45 FRONT FENDER	
Removal.....	2-103	Removal.....	2-122
Installation.....	2-103	Fender Repair.....	2-123
		Mounting Hardware.....	2-123
		Lights and Harnesses.....	2-123
		Installation.....	2-123
2.38 UPPER FAIRING AND WINDSHIELD: FRAME MOUNTED FAIRING MODELS			
Windshield.....	2-104		
Removal.....	2-104	2.46 REAR FENDER	
Installation.....	2-104	Removal.....	2-122
Outer Fairing.....	2-104	Fender Repair.....	2-123
Removal.....	2-104	Mounting Hardware.....	2-123
Installation.....	2-105	Lights and Harnesses.....	2-123
		Installation.....	2-123
2.39 INSTRUMENT BEZEL: FRAME MOUNTED FAIRING MODELS			
Bezel.....	2-107		
Removal.....	2-107	2.47 REAR FASCIA	
Installation.....	2-108	Removal.....	2-125
		Installation.....	2-125
		Stud Plate.....	2-125
		Removal.....	2-125
		Installation.....	2-125
		Rear Fascia Lamp.....	2-125
		Removal.....	2-125
		Installation.....	2-125
2.40 INSTRUMENT NACELLE: FRAME MOUNTED FAIRING MODELS			
Instrument Nacelle.....	2-109		
Removal.....	2-109	2.48 REAR FRAME	
Installation.....	2-110	Rear Frame.....	2-126
		Removal.....	2-126
		Installation.....	2-127
		Thread Repair.....	2-127
2.41 INNER FAIRING: FRAME MOUNTED FAIRING MODELS			
Removal.....	2-111		
Disassembly.....	2-112	2.49 FOOTBOARDS AND FOOTRESTS	
Installation.....	2-113	Rider Footboards.....	2-128
Outer Fairing.....	2-113	Removal.....	2-128
Inner Fairing.....	2-113	Installation.....	2-128
		Disassembly.....	2-128
		Assembly.....	2-128
		Passenger Footboard.....	2-129
		Removal.....	2-129
		Disassembly.....	2-129
		Assembly.....	2-129
		Installation.....	2-129
		Passenger Footrest: FLHX, FLTRX.....	2-129
		Removal.....	2-129
		Disassembly.....	2-129
		Assembly.....	2-130
		Installation.....	2-130
2.42 GLOVE BOX DOOR AND HINGE: FRAME MOUNTED FAIRING MODELS			
Glove Box Door and Hinge.....	2-115		
Removal.....	2-115	2.50 JIFFY STAND	
Installation.....	2-115	General.....	2-131
		Leg Removal.....	2-131
		Leg Installation.....	2-131
		Jiffy Stand Bracket.....	2-132
		Removal.....	2-132
		Installation.....	2-132
		Jiffy Stand Interlock Sensor.....	2-132
		Removal.....	2-132
		Installation.....	2-133
2.43 WINDSHIELD: ROAD KING MODELS			
Windshield.....	2-116		
Removal.....	2-116		
Installation.....	2-116		
Windshield Window.....	2-116		
Removal.....	2-116		
Installation.....	2-117		

TABLE OF CONTENTS

2.51 FRONT ENGINE MOUNT	
Removal.....	2-134
Installation.....	2-134
ENGINE	
3.1 FASTENER TORQUE VALUES	
Fastener Torque Values in this Chapter.....	3-1
3.2 SPECIFICATIONS	
Specifications.....	3-3
3.3 SERVICE WEAR LIMITS	
General.....	3-5
3.4 ENGINE OIL FLOW	
Oil Feed.....	3-7
Top End.....	3-7
Bottom End.....	3-9
Oil Return.....	3-11
Oil Cooler Operation.....	3-12
3.5 OIL PUMP OPERATION	
General.....	3-13
Operation.....	3-13
3.6 BREATHER OPERATION	
General.....	3-15
3.7 OIL PRESSURE	
Oil Pressure Indicator Lamp.....	3-16
Checking Oil Pressure.....	3-16
3.8 TROUBLESHOOTING	
Diagnosing Valve Train Noise.....	3-18
Compression Test.....	3-18
Cylinder Leakdown Test.....	3-19
Diagnosing Smoking Engine or High Oil Consumption.....	3-19
Check Prior To Cylinder Head Removal.....	3-19
Check After Cylinder Head Removal.....	3-19
3.9 OIL COOLER	
Removal.....	3-20
Installation.....	3-20
3.10 OIL COOLER ADAPTER	
Removal.....	3-21
Disassembly.....	3-21
Assembly.....	3-21
Installation.....	3-21
3.11 HOW TO USE THIS SECTION	
Top End Repair.....	3-23
Bottom End Repair.....	3-23
Typical Symptoms.....	3-23
3.12 TOP END SERVICE	
Engine in Chassis.....	3-24
Engine Removed from Chassis.....	3-25
3.13 CAM COMPARTMENT SERVICE	
Engine in Chassis.....	3-26
Engine Removed From Chassis.....	3-27
3.14 STRIPPING MOTORCYCLE FOR SERVICE	
Procedure.....	3-28
Cam Compartment Service Only.....	3-28
Top End Service.....	3-28
3.15 ASSEMBLING MOTORCYCLE AFTER SERVICE	
Procedure.....	3-29
After Top End Service.....	3-29
After Cam Compartment Service.....	3-29
3.16 REMOVING ENGINE FROM CHASSIS	
Procedure.....	3-30
3.17 INSTALLING ENGINE IN CHASSIS	
Procedure.....	3-31
3.18 TOP END OVERHAUL: DISASSEMBLY	
General.....	3-32
Rocker Covers.....	3-32
Rocker Arm Support Plate.....	3-32
Push Rods, Lifters and Covers.....	3-34
Cylinder Head.....	3-35
Cylinder.....	3-36
Piston.....	3-36
3.19 BREATHER ASSEMBLY	
Disassembly.....	3-38
Early Production.....	3-38
Late Production.....	3-38
Cleaning and Inspection.....	3-38
Assembly.....	3-38
Early Production.....	3-38
Late Production.....	3-38
3.20 ROCKER ARM SUPPORT PLATE	
Disassembly.....	3-40
Cleaning and Inspection.....	3-40
Inspection.....	3-40
Rocker Shaft Fit.....	3-40
Rocker Arm Shaft to Bushing.....	3-41
Replace Rocker Arm Bushings.....	3-41
Assembly.....	3-42
3.21 PUSH RODS, LIFTERS AND COVERS	
Disassembly.....	3-43
Cleaning and Inspection.....	3-43
Lifter Inspection.....	3-44
Assembly.....	3-44
3.22 CYLINDER HEAD	
Disassembly.....	3-45
Cleaning.....	3-46
Inspection.....	3-46

TABLE OF CONTENTS

Cylinder Head.....	3-46
Valve Guides.....	3-47
Valves.....	3-47
Valve Springs.....	3-47
Tapered Keepers.....	3-47
Valve Seats.....	3-47
Valve Guide Replacement.....	3-47
Removal.....	3-47
Installation.....	3-48
Valve and Seat Refacing.....	3-51
Assembly.....	3-53
3.23 CYLINDER	
Cleaning.....	3-56
Inspection.....	3-56
De-glazing Cylinder.....	3-58
Boring and Honing Cylinder.....	3-58
3.24 PISTON	
Disassembly.....	3-60
Piston Rings.....	3-60
Cleaning.....	3-60
Inspection.....	3-60
Assembly.....	3-62
Checking Piston Ring Gap.....	3-62
Installing Piston Rings.....	3-62
3.25 TOP END OVERHAUL: ASSEMBLY	
General.....	3-64
Piston.....	3-64
Cylinder.....	3-65
Cylinder Head.....	3-67
Push Rods, Lifters and Covers.....	3-71
Rocker Arm Support Plate.....	3-72
Breather and Rocker Cover.....	3-73
3.26 CAM COMPARTMENT AND COMPONENTS	
Cam Support Plate and Cover Removal.....	3-75
Prepare Engine.....	3-75
Cam Chain and Sprockets Removal.....	3-75
Cam Support Plate Removal.....	3-76
Cam Support Plate Cleaning and Inspection.....	3-77
Oil Pressure Valve.....	3-77
Cam Support Plate.....	3-77
Camshafts.....	3-77
Removal.....	3-77
Installation.....	3-78
Oil Pressure Relief Valve.....	3-79
Removal.....	3-79
Inspection.....	3-79
Installation.....	3-79
Cam Needle Bearings.....	3-80
Removal.....	3-80
Installation.....	3-81
Cam Support Plate and Cover Installation.....	3-83
3.27 OIL PUMP	
Removal.....	3-87
Cleaning and Inspection.....	3-87
Installation.....	3-88
3.28 CRANKCASE DISASSEMBLY AND REPAIR	
Crankcase Disassembly.....	3-90
Cleaning and Inspection.....	3-90
Right Crankcase Half.....	3-91
Main Bearing Removal.....	3-91
Main Bearing Installation.....	3-91
Piston Jets Removal.....	3-92
Piston Jets Installation.....	3-92
Left Crankcase Half.....	3-92
Main Bearing Removal.....	3-92
Main Bearing Installation.....	3-94
Sprocket Shaft Bearing Inner Race.....	3-94
Removal.....	3-94
Installation.....	3-95
Cylinder Studs.....	3-97
Removal.....	3-97
Installation.....	3-97
Pipe Plug and Oil Fittings.....	3-98
Removal.....	3-98
Installation.....	3-98
3.29 FLYWHEEL AND CONNECTING RODS	
Inspection.....	3-99
Measuring Crankshaft Runout.....	3-99
Crankshaft Removed.....	3-99
3.30 CRANKCASE ASSEMBLY	
Crankcase Assembly.....	3-101
3.31 OIL PAN	
Removal.....	3-103
Installation.....	3-103
FUEL SYSTEM	
4.1 FASTENER TORQUE VALUES	
Fastener Torque Values in this Chapter.....	4-1
4.2 SPECIFICATIONS: FUEL SYSTEM	
Specifications.....	4-3
4.3 ELECTRONIC FUEL INJECTION (EFI)	
Troubleshooting.....	4-4
4.4 AIR CLEANER ASSEMBLY	
Removal.....	4-5
Installation.....	4-6
4.5 FUEL TANK	
Removal.....	4-8
Purge and Disconnect Fuel Line.....	4-8
Remove Tank.....	4-8
Installation.....	4-8
Evaporative Emissions Tube: Non-CA Models.....	4-9
Removal.....	4-9
Installation.....	4-9
Fuel Supply Check Valve/Tube.....	4-9
Removal.....	4-9
Installation.....	4-10

TABLE OF CONTENTS

4.6 FUEL TANK TOP PLATE		4.18 FUEL PRESSURE TEST	
Removal.....	4-11	General.....	4-30
Installation.....	4-12	Testing.....	4-30
4.7 FUEL FILTER		4.19 EXHAUST SYSTEM	
Removal.....	4-13	Mufflers.....	4-32
Installation.....	4-13	Removal.....	4-32
4.8 FUEL PRESSURE REGULATOR		Installation.....	4-32
Removal.....	4-14	System Removal.....	4-32
Installation.....	4-14	System Installation.....	4-33
4.9 FUEL LEVEL SENDER		4.20 ACTIVE EXHAUST (HDI)	
Removal.....	4-15	Exhaust Valve Actuator.....	4-35
Installation.....	4-15	Removal.....	4-35
4.10 TWIST GRIP SENSOR		Installation.....	4-35
Removal.....	4-16	Exhaust Valve Actuator Cable.....	4-35
Installation.....	4-17	Removal.....	4-35
Twist Grip Sensor Jumper Harness.....	4-18	Installation.....	4-35
Removal.....	4-18	Active Exhaust Valve.....	4-35
Installation.....	4-18	General.....	4-35
4.11 THROTTLE CONTROL ACTUATOR (TCA)		4.21 INTAKE LEAK TEST	
General.....	4-19	General.....	4-36
4.12 ENGINE TEMPERATURE SENSOR (ET)		Leak Tester.....	4-36
Removal.....	4-20	Parts List.....	4-36
Installation.....	4-20	Tester Assembly.....	4-36
4.13 INDUCTION MODULE		Tester Adjustment.....	4-36
Removal.....	4-21	Procedure.....	4-36
Installation.....	4-22	4.22 EVAPORATIVE EMISSIONS CONTROL SYSTEM	
4.14 TEMPERATURE MANIFOLD ABSOLUTE PRESSURE SENSOR (TMAP)		General.....	4-38
General.....	4-23	Vapor Valve.....	4-38
Removal.....	4-23	Fuel Vapor Vent Tube.....	4-39
Installation.....	4-23	Removal.....	4-39
4.15 OXYGEN SENSORS (O2)		Installation.....	4-39
General.....	4-24	Canister-to-Solenoid Tube.....	4-39
Removal.....	4-24	Removal.....	4-39
Installation.....	4-25	Installation.....	4-39
4.16 FUEL INJECTORS		Solenoid-to-Induction Module Tube.....	4-39
General.....	4-26	Removal.....	4-39
Removal.....	4-26	Installation.....	4-39
Installation.....	4-26	Purge Solenoid.....	4-40
4.17 FUEL PUMP		Removal.....	4-40
General.....	4-28	Installation.....	4-40
Removal.....	4-28	Charcoal Canister.....	4-40
Installation.....	4-28	Removal.....	4-40
Fuel Pump and Fuel Level Sender Wire Harness.....	4-29	Installation.....	4-40
Removal.....	4-29	DRIVE	
Installation.....	4-29	5.1 FASTENER TORQUE VALUES	
5.2 SPECIFICATIONS: DRIVE		Fastener Torque Values in this Chapter.....	5-1
Specifications.....	5-2	5.3 PRIMARY CHAINCASE COVER	
General.....	5-3	General.....	5-3
Removal.....	5-3		

TABLE OF CONTENTS

Installation.....	5-3
5.4 DRIVE COMPONENTS	
Removal.....	5-5
Installation.....	5-7
5.5 PRIMARY CHAINCASE HOUSING	
Removal.....	5-10
Inspection.....	5-10
Mainshaft Bearing and Lip Seal.....	5-10
Removal.....	5-10
Installation.....	5-10
Mainshaft Bearing Inner Race.....	5-11
Removal.....	5-11
Installation.....	5-12
Shifter Shaft Bushings.....	5-12
Installation.....	5-12
5.6 CLUTCH	
Removal and Installation.....	5-14
Clutch Pack Only.....	5-14
Partial Disassembly.....	5-14
Cleaning And Inspection.....	5-14
Assembly.....	5-15
Clutch Pack and Bearing.....	5-16
Complete Disassembly.....	5-16
Assembly.....	5-17
5.7 TRANSMISSION SPROCKET	
Removal.....	5-19
Cleaning and Inspection.....	5-19
Installation.....	5-19
5.8 DRIVE BELT	
Removal and Adjustment.....	5-21
Adjustment.....	5-21
Removal.....	5-21
Installation.....	5-21
TRANSMISSION	
6.1 FASTENER TORQUE VALUES	
Fastener Torque Values in this Chapter.....	6-1
6.2 SPECIFICATIONS: TRANSMISSION	
Specifications.....	6-2
Service Wear Limits.....	6-2
6.3 TRANSMISSION	
Power Flow.....	6-3
Neutral.....	6-3
1st Gear.....	6-3
2nd Gear.....	6-3
3rd Gear.....	6-3
4th Gear.....	6-3
5th Gear.....	6-3
6th Gear.....	6-3
6.4 SHIFTER LINKAGE	
Shifter Rod.....	6-5
6.5 CLUTCH RELEASE COVER	
Removal and Disassembly.....	6-6
Cleaning and Inspection.....	6-7
Assembly and Installation.....	6-7
6.6 TRANSMISSION ASSEMBLY	
Removal.....	6-8
Disassembly.....	6-9
Shifter Cam/Shifter Forks.....	6-9
Mainshaft.....	6-11
Countershaft.....	6-13
Removing Side Door Bearings.....	6-14
Cleaning and Inspection.....	6-15
Assembly.....	6-15
Installing Side Door Bearings.....	6-15
Countershaft.....	6-15
Mainshaft.....	6-16
Shifter Cam/Shifter Forks.....	6-16
Installation.....	6-19
6.7 MAIN DRIVE GEAR AND BEARING	
Removal.....	6-21
Cleaning and Inspection.....	6-22
Needle Bearing Replacement.....	6-23
Mainshaft Seal Replacement.....	6-24
Installation.....	6-25
Installing Main Drive Gear Bearing.....	6-25
Installing Main Drive Gear.....	6-25
Installing Main Drive Gear Large Seal.....	6-26
6.8 TRANSMISSION CASE	
Removal.....	6-28
Installation.....	6-28
Disassembly.....	6-29
Shifter Arm Assembly.....	6-29
Cleaning and Inspection.....	6-29
Assembly.....	6-30
Countershaft Needle Bearing Replacement.....	6-30
Shifter Pawl Lever Assembly.....	6-30
ELECTRICAL	
7.1 FASTENER TORQUE VALUES	
Fastener Torque Values in this Chapter.....	7-1
7.2 SPECIFICATIONS: ELECTRICAL	
Specifications.....	7-5
7.3 VOLTAGE REGULATOR	
Removal.....	7-6
Installation.....	7-6
7.4 ELECTRONIC CONTROL MODULE (ECM)	
ECM.....	7-7
Removal.....	7-7
Installation.....	7-7
7.5 TURN SIGNAL AND SECURITY MODULE (TSM/TSSM/HFSM)	
General.....	7-8

TABLE OF CONTENTS

Removal.....	7-8	Removal.....	7-24
Installation.....	7-8	Repair.....	7-24
HFSM Antenna.....	7-9	Installation.....	7-24
Removal.....	7-9	Headlamp Bulb Replacement: Dual Headlamp Models.....	7-24
Installation.....	7-9	Removal.....	7-24
7.6 IGNITION COIL		Bulb Replacement.....	7-24
Removal.....	7-10	Installation.....	7-25
Installation.....	7-10		
7.7 SYSTEM FUSES AND RELAYS			
Main Fuse.....	7-11	7.13 AUXILIARY LAMPS AND BRACKETS	
Removal.....	7-11	Auxiliary Lamp Bulb Replacement.....	7-26
Installation.....	7-11	Removal.....	7-26
Main Fuse Holder.....	7-11	Installation.....	7-26
Removal.....	7-11	Auxiliary Lamp Housing.....	7-27
Installation.....	7-11	Removal.....	7-27
System Fuses and Relays.....	7-11	Installation.....	7-28
Removal.....	7-11	Auxiliary Lamp Bracket.....	7-28
Installation.....	7-11	Removal.....	7-28
Fuse Blocks.....	7-12	Installation.....	7-29
Removal.....	7-12	Adjustment.....	7-29
Installation.....	7-12		
7.8 ELECTRICAL CADDIES		7.14 TAIL LAMP	
Top Caddy.....	7-13	Tail Lamp Bulb Replacement.....	7-30
Removal.....	7-13	Removal.....	7-30
Installation.....	7-13	Installation.....	7-30
Left Side Caddy.....	7-13	Circuit Board/Chrome Base.....	7-30
Removal.....	7-13	Removal.....	7-30
Installation.....	7-13	Installation.....	7-31
Battery Tray.....	7-15	Rear Fender Lights Harness: all except FLHX, FLTRX.....	7-31
Removal.....	7-15	Removal.....	7-31
Installation.....	7-16	Installation.....	7-32
7.9 SECURITY SIREN		Rear Fender Lights Harness: FLHX, FLTRX.....	7-33
Removal.....	7-17	Removal.....	7-33
Installation.....	7-17	Installation.....	7-33
7.10 STARTER			
General.....	7-18	7.15 FENDER TIP LAMPS	
Removal.....	7-18	Front Fender Tip Lamp.....	7-35
Drive Assembly.....	7-18	Removal.....	7-35
Disassembly.....	7-18	Installation.....	7-35
Inspection.....	7-19	Front Fender Tip Lamp Jumper Harness.....	7-35
Assembly.....	7-19	Removal.....	7-35
Solenoid.....	7-20	Installation.....	7-36
Cover and Plunger Removal.....	7-20	Rear Fender Tip Lamp.....	7-37
Short Post Contact: Starter.....	7-20	Removal.....	7-37
Long Post Contact: Battery Positive.....	7-20	Installation.....	7-38
Plunger and Cover Installation.....	7-21		
Installation.....	7-21	7.16 TURN SIGNAL LAMPS	
7.11 HEADLAMP: ALL EXCEPT ROAD GLIDE		Turn Signal Bulb Replacement: Bullet Style.....	7-39
Headlamp: Single Headlamp Models.....	7-22	Turn Signal Bulb Replacement: Flat Lens Style.....	7-39
Removal.....	7-22	Front Turn Signal Lamp.....	7-39
Bulb Replacement.....	7-22	Removal: Flat Lens Style.....	7-39
Installation.....	7-22	Installation: Flat Lens Style.....	7-40
7.12 HEADLAMP: ROAD GLIDE		Removal: Bullet Style, Fork Mounted.....	7-41
Headlamp Adjuster Assembly.....	7-24	Installation: Bullet Style, Fork Mounted.....	7-42
		Removal: Bullet Style, Fairing Mounted.....	7-42
		Installation: Bullet Style, Fairing Mounted.....	7-43
		Rear Turn Signal Lamp.....	7-43
		Removal: FLHR/C, FLHTC/U, FLHTK.....	7-43
		Installation: FLHR/C, FLHTC/U, FLHTK.....	7-44
		Removal: FLHX, FLTRX, FLTRU.....	7-44
		Installation: FLHX, FLTRX, FLTRU.....	7-44
		Rear Turn Signal Lamps Bracket.....	7-46
		Removal: FLHR/C, FLHTC/U, FLHTK.....	7-46

TABLE OF CONTENTS

Installation: FLHR/C, FLHTC/U, FLHTK.....	7-46
Removal: FLHX, FLTRX, FLTRU.....	7-46
Installation: FLHX, FLTRX, FLTRU.....	7-47
7.17 IGNITION/LIGHT KEY SWITCH AND FORK LOCK	
Fairing Models.....	7-48
Removal.....	7-48
Installation.....	7-50
Road King Models.....	7-51
Ignition/Light Key Switch: Removal.....	7-51
Ignition/Light Key Switch: Installation.....	7-51
Fork Lock: Removal.....	7-51
Fork Lock: Installation.....	7-51
7.18 FAIRING CAP SWITCHES: FORK MOUNTED FAIRING MODELS	
Removal.....	7-53
Installation.....	7-54
7.19 INSTRUMENT NACELLE SWITCHES: FRAME MOUNTED FAIRING MODELS	
Removal.....	7-55
Left Side Switch.....	7-55
Right Side Switches.....	7-56
Installation.....	7-56
Left Side Switch.....	7-56
Right Side Switches.....	7-56
7.20 CRANKSHAFT POSITION SENSOR (CKP)	
General.....	7-59
Removal.....	7-59
Installation.....	7-59
7.21 AUTOMATIC COMPRESSION RELEASE (ACR)	
General.....	7-60
Removal.....	7-60
Installation.....	7-60
7.22 ALTERNATOR	
Removal.....	7-62
Cleaning and Inspection.....	7-62
Installation.....	7-63
7.23 VEHICLE SPEED SENSOR (VSS)	
VSS.....	7-64
Removal.....	7-64
Installation.....	7-64
7.24 NEUTRAL SWITCH	
Removal.....	7-65
Installation.....	7-65
7.25 OIL PRESSURE SWITCH AND SENDER	
Removal.....	7-66
Installation.....	7-66
7.26 STOPLIGHT SWITCHES	
Front Stoplight Switch.....	7-67
Removal/Installation.....	7-67
Rear Stoplight Switch.....	7-67
Removal.....	7-67
Installation.....	7-67
7.27 HORN	
Inspection.....	7-68
Removal.....	7-68
Installation.....	7-68
7.28 CIGARETTE LIGHTER: FAIRING MODELS	
Troubleshooting.....	7-69
Removal.....	7-69
Installation.....	7-69
7.29 GAUGES AND INSTRUMENTS: FAIRING MODELS	
2 Inch Diameter Gauges: Fuel Level, Ambient Air Temperature, Voltmeter, Oil Pressure.....	7-70
Removal.....	7-70
Installation.....	7-70
Tachometer.....	7-70
Removal.....	7-70
Installation.....	7-70
Speedometer.....	7-71
Removal.....	7-71
Installation.....	7-71
7.30 INDICATOR LAMPS: FAIRING MODELS	
Indicator Lamps.....	7-72
Removal.....	7-72
Installation.....	7-72
7.31 GAUGES AND INSTRUMENTS: ROAD KING MODELS	
Fuel Gauge.....	7-73
Removal.....	7-73
Installation.....	7-73
Speedometer.....	7-73
Removal.....	7-73
Installation.....	7-74
7.32 INDICATOR LAMPS: ROAD KING MODELS	
Indicator Lamps.....	7-75
Removal.....	7-75
Installation.....	7-75
7.33 ADVANCED AUDIO SYSTEM	
Radio.....	7-76
Removal.....	7-76
Installation.....	7-76
Front Fairing Speakers.....	7-77
Removal.....	7-77
Installation.....	7-77
Front Headset Receptacle.....	7-77

TABLE OF CONTENTS

Removal.....	7-77	Specific Repair Procedures: Upper Switch Housings.....	7-106
Installation.....	7-77	Right Side Handlebar (All Models).....	7-106
Rear Headset Receptacle.....	7-78	Left Side Handlebar (All Models).....	7-107
Rear Passenger Switches.....	7-78	Specific Repair Procedures: Right Side Lower Switch	
Removal.....	7-78	Housings.....	7-108
Installation.....	7-78	Preliminary Instructions.....	7-108
Rear Speakers.....	7-80	Turn-Right Signal Switch (All Models).....	7-108
Removal.....	7-80	Front Stoplight Switch (All Models).....	7-108
Installation.....	7-80	Mode Select Switch (Classic and Ultra Models).....	7-108
CB Module.....	7-80	Cruise Set/Resume Switch (Road King Classic and Ultra	
Removal.....	7-80	Models).....	7-109
Installation.....	7-80	Final Instructions.....	7-110
7.34 WIRE TROUGH		Specific Repair Procedures: Left Side Lower Switch	
Removal.....	7-81	Housings.....	7-111
Installation.....	7-82	Preliminary Instructions.....	7-111
7.35 MAIN WIRING HARNESS		Turn-Left Signal Switch (All Models).....	7-111
Removal: All Models (Part 1).....	7-83	Clutch Interlock Switch.....	7-111
Removal: Road King Models (Part 2).....	7-83	Audio Control Switch (Classic and Ultra Models).....	7-113
Removal: Fork Mounted Fairing Models (Part 2).....	7-84	CB Push-To-Transmit Switch (Ultra Models).....	7-113
Removal: Frame Mounted Fairing Models (Part 2).....	7-85	Cruise On/Off Switch (Road King Classic Models).....	7-113
Removal: All Models (Part 3).....	7-85	Final Instructions.....	7-114
Installation: All Models (Part 1).....	7-87	General Repair Procedures.....	7-114
Installation: Road King Models (Part 2).....	7-89	Assembly: Right Side Handlebar Switches.....	7-115
Installation: Fork Mounted Fairing Models (Part 2).....	7-90	Assembly: Left Side Handlebar Switches.....	7-116
Installation: Frame Mounted Fairing Models (Part 2).....	7-90	Installation.....	7-116
Installation: All Models (Part 3).....	7-90	Right Handlebar Controls.....	7-116
7.36 INTERCONNECT HARNESS		Left Handlebar Controls.....	7-117
Fork Mounted Fairing Models.....	7-91	7.41 TSSM/HFSM MAINTENANCE	
Removal.....	7-91	General.....	7-121
Installation.....	7-92	Fob Battery.....	7-121
Frame Mounted Fairing Models.....	7-94	Battery Replacement Schedule.....	7-121
Removal.....	7-94	Battery Replacement.....	7-121
Installation.....	7-96	Smart Siren (If Installed).....	7-121
7.37 RADIO ANTENNA CABLE		Battery Replacement Schedule.....	7-121
Models Equipped with Tour-Pak.....	7-98	Battery Replacement.....	7-121
Removal.....	7-98	7.42 PERSONAL IDENTIFICATION NUMBER	
Installation.....	7-98	(PIN)	
Models without Tour-Pak.....	7-99	General.....	7-123
Removal.....	7-99	Initial Pin Entry.....	7-123
Installation.....	7-99	Changing the Pin.....	7-123
7.38 REAR AUDIO HARNESS: ULTRA MODELS		Modifying an Existing Pin.....	7-123
Removal.....	7-101	7.43 H-DSSS ACTUATION	
Installation.....	7-101	General.....	7-125
7.39 CB ANTENNA CABLE: ULTRA MODELS		Sidecar Configuration.....	7-125
Removal.....	7-103	Actuation.....	7-125
Installation.....	7-103	Fob Assignment.....	7-125
7.40 HANDLEBAR SWITCH ASSEMBLIES		Power Disruption and Configuring.....	7-125
Removal.....	7-105	7.44 TSM/HFSM: PASSWORD LEARN	
Right Handlebar Controls.....	7-105	General.....	7-126
Left Handlebar Controls.....	7-105	Password Learn.....	7-126
Disassembly.....	7-105	APPENDIX A CONNECTOR REPAIR	
Right Side Handlebar Switches.....	7-105	A.1 AUTOFUSE UNSEALED ELECTRICAL CONNECTORS	
Left Side Handlebar Switches.....	7-106	Autofuse Unsealed Connector Repair.....	A-1

TABLE OF CONTENTS

General.....	A-1	Crimping Wire Core.....	A-11
Disassembly.....	A-1	Crimping Insulation/Seal.....	A-11
Assembly.....	A-1	Inspecting Crimps.....	A-12
A.2 DELPHI 100W MICRO-PACK SEALED CONNECTOR			
Delphi 100W Micro-Pack Sealed Connector Repair.....	A-2	Delphi Micro 64 Sealed Connector Repair.....	A-13
General.....	A-2	General.....	A-13
Separating Socket Housing From ECM.....	A-2	Separating Pin and Socket Housings.....	A-13
Mating Socket Housing To ECM.....	A-2	Mating Pin and Socket Housings.....	A-13
Removing Socket Terminal.....	A-2	Removing Terminal.....	A-13
Installing Socket Terminal.....	A-2	Installing Terminal.....	A-14
Crimping Terminals.....	A-2	Preparing Wire Leads for Crimping.....	A-14
Inspecting Crimps.....	A-14	Crimping Terminals.....	A-14
		Inspecting Crimps.....	A-14
A.3 DELPHI 150 METRI-PACK SEALED CONNECTORS			
Delphi 150 Metri-Pack Sealed Connector Repair.....	A-4	Delphi GT 150 Sealed Connector Repair.....	A-16
General.....	A-4	General.....	A-16
Separating Pin and Socket Housings.....	A-4	Separating Pin and Socket Housings.....	A-16
Mating Pin and Socket Housings.....	A-4	Mating Pin and Socket Housings.....	A-16
Removing Socket Terminal.....	A-4	Removing Socket Terminals.....	A-16
Inserting Socket Terminal.....	A-4	Installing Socket Terminals.....	A-16
A.4 DELPHI 280 METRI-PACK UNSEALED CONNECTORS			
Fuse Block Repair.....	A-6	Delphi GT 280 Sealed 73-Terminal ECM Connector.....	A-18
Removing Socket Terminals.....	A-6	Separating Socket Housing From ECM.....	A-18
Installing Socket Terminals.....	A-6	Mating Socket Housing To ECM.....	A-18
Crimping Terminals.....	A-6	Socket Terminal.....	A-18
		ECM Ground Terminal.....	A-18
A.5 DELPHI 480 METRI-PACK UNSEALED CONNECTORS			
Delphi 480 Metri-Pack Unsealed Connector Repair.....	A-7	Deutsch DT Sealed Connector Repair.....	A-20
General.....	A-7	General.....	A-20
Separating Pin and Socket Housings.....	A-7	Separating Pin and Socket Housings.....	A-20
Mating Pin and Socket Housings.....	A-7	Mating Pin and Socket Housings.....	A-20
Removing Socket Terminals.....	A-7	Removing Socket Terminals.....	A-20
Installing Socket Terminals.....	A-7	Installing Socket Terminals.....	A-20
		Removing Pin Terminals.....	A-22
A.6 DELPHI 630 METRI-PACK UNSEALED CONNECTORS			
Delphi 630 Metri-Pack Unsealed Connector Repair.....	A-8	Installing Pin Terminals.....	A-22
Separating Pin and Socket Housings.....	A-8	Crimping Terminals.....	A-23
Mating Pin and Socket Housings.....	A-8		
Removing Socket Terminal.....	A-8	Deutsch DT Sealed Terminal Crimps.....	A-24
Installing Socket Terminal.....	A-8	Preparing Wire Leads for Crimping.....	A-24
		Crimping Terminal to Lead.....	A-24
A.7 DELPHI 800 METRI-PACK SEALED MAIN FUSE HOUSING			
Delphi 800 Metri-Pack Sealed Main Fuse Housing Repair.....	A-9	Inspecting Crimps.....	A-24
Removing Socket Terminals.....	A-9		
Installing Socket Terminals.....	A-9	Deutsch DTM Sealed Mini Terminal Crimps.....	A-25
		Preparing Wire Leads for Crimping.....	A-25
A.8 DELPHI METRI-PACK TERMINAL REPAIR			
Metri-Pack Terminal Crimps.....	A-11	Crimping a Mini Terminal to Wire Lead.....	A-25
Matching Terminal To Crimper.....	A-11	Inspecting Crimps.....	A-25
Preparing Wire Lead.....	A-11		
A.9 DELPHI MICRO 64 SEALED CONNECTORS			
Delphi Micro 64 Sealed Connector Repair.....	A-13		
General.....	A-13		
Separating Pin and Socket Housings.....	A-13		
Mating Pin and Socket Housings.....	A-13		
Removing Terminal.....	A-13		
Installing Terminal.....	A-14		
Preparing Wire Leads for Crimping.....	A-14		
Crimping Terminals.....	A-14		
A.10 DELPHI GT 150 SEALED CONNECTORS			
Delphi GT 150 Sealed Connector Repair.....	A-16		
General.....	A-16		
Separating Pin and Socket Housings.....	A-16		
Mating Pin and Socket Housings.....	A-16		
Removing Socket Terminals.....	A-16		
Installing Socket Terminals.....	A-16		
A.11 DELPHI GT 280 SEALED 73-TERMINAL ECM CONNECTOR			
Delphi GT 280 Sealed 73-Terminal ECM Connector.....	A-18		
Separating Socket Housing From ECM.....	A-18		
Mating Socket Housing To ECM.....	A-18		
Socket Terminal.....	A-18		
ECM Ground Terminal.....	A-18		
A.12 DEUTSCH DT SEALED CONNECTORS			
Deutsch DT Sealed Connector Repair.....	A-20		
General.....	A-20		
Separating Pin and Socket Housings.....	A-20		
Mating Pin and Socket Housings.....	A-20		
Removing Socket Terminals.....	A-20		
Installing Socket Terminals.....	A-20		
Removing Pin Terminals.....	A-22		
Installing Pin Terminals.....	A-22		
Crimping Terminals.....	A-23		
A.13 DEUTSCH DT SEALED TERMINAL REPAIR			
Deutsch DT Sealed Terminal Crimps.....	A-24		
Preparing Wire Leads for Crimping.....	A-24		
Crimping Terminal to Lead.....	A-24		
Inspecting Crimps.....	A-24		
A.14 DEUTSCH DTM SEALED MINI TERMINAL REPAIR			
Deutsch DTM Sealed Mini Terminal Crimps.....	A-25		
Preparing Wire Leads for Crimping.....	A-25		
Crimping a Mini Terminal to Wire Lead.....	A-25		
Inspecting Crimps.....	A-25		

TABLE OF CONTENTS

A.15 DEUTSCH DTM SEALED SOLID BARREL MINI TERMINAL REPAIR	Deutsch DTM Sealed Solid Barrel Terminal Crimps.....A-26 Preparing Wire Leads For Crimping.....A-26 Adjusting Crimper Tool.....A-26 Crimping a Barrel Contact To Wire Lead.....A-26 Inspecting Crimps.....A-26	Place and Color.....B-1 Connector Number.....B-1 Repair Instructions.....B-1
A.16 JAE MX19 SEALED CONNECTORS	JAE MX19 Sealed Connectors.....A-28 Connector Housings.....A-28 Removing Terminals.....A-28 Installing Terminals.....A-28	B.2 WIRING DIAGRAMS Wiring Diagram Information.....B-7 Wire Color Codes.....B-7 Wiring Diagram Symbols.....B-7 2011 Touring Wiring Diagrams.....B-9
A.17 MOLEX CMC SEALED CONNECTORS	Molex CMC Sealed Connectors.....A-29 Separating the Connector.....A-29 Removing Terminals.....A-29 Installing Terminals.....A-29	APPENDIX C ABS
A.18 MOLEX MX 150 SEALED CONNECTORS	Molex MX 150 Sealed Connector Repair.....A-31 Separating Pin and Socket Housings.....A-31 Mating Pin and Socket Housings.....A-31 Removing Terminals.....A-31 Installing Terminals.....A-31 Crimp Terminal to Lead.....A-32 Prepare Lead.....A-32 Prepare Tool.....A-32 Position Terminal in the Punch/Die.....A-33 Insert Stripped Lead.....A-33 Crimp Terminal to Lead.....A-34 Inspect Crimp.....A-34	C.1 FASTENER TORQUE VALUES Fastener Torque Values in this Chapter.....C-1
A.19 TYCO 070 MULTILOCK UNSEALED CONNECTOR	Tyco 070 Multilock Unsealed Connector Repair.....A-35 General.....A-35 Separating Pin and Socket Housings.....A-35 Mating Pin and Socket Housings.....A-35 Removing Terminals from Housing.....A-35 Inserting Terminals into Housing.....A-36 Preparing Wire Leads for Crimping.....A-36 Crimping Terminals to Leads.....A-37 Inspecting Crimped Terminals.....A-38	C.2 ABS MODULE Hydraulic Control Unit (HCU).....C-2 Removal.....C-2 Installation.....C-3 Electronic Control Unit (ECU).....C-3 Removal.....C-3 Installation.....C-4
A.20 SEALED SPLICE CONNECTORS	Sealed Splice Connector Repair.....A-39 General.....A-39 Preparing Wire Leads.....A-39 Splicing Wire Leads.....A-39 Inspecting Seals.....A-39	C.3 WHEEL SPEED SENSORS Front Wheel Speed Sensor.....C-5 Removal.....C-5 Installation.....C-5 Rear Wheel Speed Sensor.....C-6 Removal.....C-6 Installation.....C-6
APPENDIX B WIRING		C.4 ABS BRAKE LINES Front Master Cylinder to ABS Module.....C-7 Removal.....C-7 Installation.....C-8 ABS Module to Front Brake Calipers.....C-8 Removal.....C-8 Installation.....C-9 Rear Master Cylinder to ABS Module.....C-10 Removal.....C-10 Installation.....C-11 ABS Module to Rear Brake Caliper.....C-12 Removal.....C-12 Installation.....C-12
B.1 CONNECTORS	Connector Locations.....B-1 Function/Location.....B-1	APPENDIX D CONVERSIONS
		D.1 METRIC CONVERSION Conversion Table.....D-1
		D.2 FLUID CONVERSIONS United States System.....D-2 Metric System.....D-2 British Imperial System.....D-2
		D.3 TORQUE CONVERSIONS United States System.....D-3 Metric System.....D-3

TABLE OF CONTENTS

APPENDIX E GLOSSARY

E.1 GLOSSARY

Acronyms and Abbreviations.....E-1

REFERENCE MATERIAL

TOOLS.....I

TORQUE VALUES.....VII

INDEX.....XXIII

NOTES

Thank you so much for reading.

**Please click the “Buy Now!”
button below to download the
complete manual.**

Buy Now



After you pay.

**You can download the most
perfect and complete manual in
the world immediately.**

Our support email:

ebooklibonline@outlook.com