

Harley-Davidson

SERVICE MANUAL

1978

Sportster

XL/XLH/XLCH/XLT-1000

1970 to

PART NO. 99484-78

**1970-78
SPORTSTER**

**XL/XLH/
XLCH/XLT-1000**

**SERVICE
MANUAL**

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The maintenance and repair information in this manual applies to the 1970-72 Sportster Models XLH, XLCH, the 1976 XLT and the 1973-78 XL/XLH/XLCH.

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GENERAL

SPECIFICATIONS

DIMENSIONS

	<u>XL, XLH</u>	<u>XLCH</u>
Wheel Base	58-1/2"	58-1/2"
Overall Length	1970-76 87-1/4"	87-1/4"
..... 1977 & later	87-3/4"	87-3/4"
Overall Width	1970-76 33"	32"
..... 1977 & later	35"	35"
Overall Height	1970-76 40-1/2"	42"
..... 1977 & later	48"	48"
Road Clearance	1970-72 6-3/4"	6-1/2"
..... 1973-77	7-1/4"	7-1/4"

CAPACITIES

	<u>XL, XLH</u>	<u>XLCH</u>
Gasoline Tank (U.S. Gallons)	4.0 or 2.2	4.0 or 2.2
Reserve25	.25
Oil Tank (Quarts)	3	3
Transmission (Pints)	1-1/2	1-1/2

ENGINE

Model Designation Letters	XL, XLH, XLCH
Type of Engine	4 Cycle OHV
Number of Cylinders	2
Placement of Cylinders	45 Degree, V Type
Horsepower: 1970-71	58 hp at 6800 rpm
..... 1972-77	61 hp at 6200 rpm
..... 1978	59.5 hp at 6400 rpm
Taxable Horsepower	7.2
Bore: 1970-71	3.00 in. (76.2 mm)
..... 1972 & later	3.188 in. (81 mm)
Stroke	3.8125 in. (96.8 mm)
Piston Displacement:	
..... 1970-71	53.9 cu. in. (883 cc)
..... 1972 & later	60.9 cu. in. (997.5 cc)
Torque	52 lb-ft at 3800 rpm
Compression Ratio	9.0 to 1
Spark Plugs (for break-in period)	No. 4

After break-in period, No. 5 plug is recommended for average and hard service.

The Vehicle Identification Number (V.I.N.) is stamped on the right side of the engine crankcase and on the frame steering head. It consists of a model code, a serial number, a manufacturer's identification and model year as shown in the table.

Letters	Model No.	Serial No.	Mfgr.	Year
XL or XLH	3A	10,000	H	8
XLCH	4A	and up	Harley-Davidson	(1978)
XLA	4D	(5 digits)		
XLT	2G			

Always give this number when ordering parts or making an inquiry.

TRANSMISSION

Type Constant Mesh - Foot Shift
Speeds 4 Forward

Number of Sprocket Teeth:	XL, XLH, XLCH		1970-71 XLCH Only
	1973 & Later	1970-73	
Engine	34	34	34
Clutch	59	59	59
Transmission	21	20	19
Rear Wheel	51	51	51
Gear Ratios:			
First (Low) Gear	10.63	11.16	11.74
Second Gear	7.70	8.08	8.50
Third Gear	5.82	6.11	6.43
Fourth (High) Gear	4.22	4.42	4.66

TIRE DATA

SPORTSTER TIRE CHART

Wheel	Wheel Description	Tire Size
19 Inch	Laced	3.75-19T
	XLH/XLCH/XLT Front Cast, 7 Spoke Cast, 9 Spoke	MJ90-19
18 Inch	Laced	4.25-18T
	XLH/XLCH/XLT Rear Cast, 7 Spoke Cast, 9 Spoke	MN90-18
16 Inch	XLH/XLCH Rear (Accessory)	MT90-16T 5.00-16T 5.10-16T

WARNING — These tires have been specified to provide maximum handling stability and must be used exclusively for replacement.

Tire Size Front - MM90-19T (3.75 x 19T)
 Rear - 4.25 x 18T
 Pressure Front - 24 lbs.
 Rear - 30 lbs.

WARNING — Maximum pressure of either tire is 32 lbs.

IMPORTANT

Either Goodyear or Yokohama tires are supplied as original equipment and are identified according to

the chart on page 1-1. Innertubes are identified with manufacturers corresponding size numbers. These tires were specially designed to provide maximum roadability. These special tires must be used exclusively for replacement. Tires will fit only taper base rims. On the XLT model, use only Yokohoma's Y-980 for the front and Y-622 for the rear tire.

The tire inflation pressures given are based on a rider weighing approximately 150 lbs. When this load is exceeded by 50 lbs. or more, increase tire pressure as follows: for each 50 lbs. of overload, increase pressure of rear tire 2 lbs. and front tire 1 lb.

Tire Size	Manufacturer	Part Number	Notes
3.75 x 19T	Goodyear	MM90-19T	
3.75 x 19T	Yokohama	Y-980	
4.25 x 18T	Goodyear	4.25-18T	
4.25 x 18T	Yokohama	Y-622	

Tire Size	Manufacturer	Part Number	Notes
3.75 x 19T	Goodyear	MM90-19T	
3.75 x 19T	Yokohama	Y-980	
4.25 x 18T	Goodyear	4.25-18T	
4.25 x 18T	Yokohama	Y-622	

SERVICE

SERVICING A NEW MOTORCYCLE

PRE-DELIVERY

Service operations to be performed before delivery to customer are specified in the Setting Up Instructions and Important Instructions included with new vehicle.

CHECK AT FIRST 500 MILES

1. Drain oil tank through drain plug, flush with kerosene and refill with fresh oil.
2. If motorcycle is equipped with oil filter, service the filter.
3. Drain transmission and front chain compartments, clean transmission magnetic drain plug, and refill with fresh oil. Use same grade oil used in engine. Reinstall plug. If an oil leak is noted, reinstall plug along with Seal Washer, Part No. 6370.
4. Lubricate all points indicated for 2000 mile servicing as described in the Regular Service Intervals Chart.
5. Inspect and service air cleaner if needed.
6. Check and adjust chains.
7. Check lubrication and condition of rear chain and adjust rear chain oiler if necessary.
8. Check all nuts, bolts and screws, and tighten any found loose to specified torque.
9. Check wheel mounting bolts which secure rear wheel to brake assembly. These bolts must be kept very tight. See torque chart.
10. Check battery solution level and add distilled water if needed. Make sure terminals are clean and connections tight.
11. Check tightness of all cylinder head bolts and all cylinder base nuts. See torque chart.
12. Check tappet adjustment and readjust if necessary.
13. Check spark plug electrodes, clean and regap if necessary.
14. Check ignition timing and circuit breaker point condition and gap.
15. Check wheel spokes and tighten if necessary.
16. Check front fork and rear fork bearing adjustment.
17. Check clutch adjustment.
18. Check brake adjustment.
19. Aim headlight.
20. Oil all control joints and parts as indicated in 2000 mile regular service intervals.
21. Check gasoline supply valve, lines, and fittings to be sure there are no leaks.

22. Check tire pressure and inspect tread.
23. Change front fork oil.
24. Check fluid level in master cylinder reservoir. Check brake lines and brake caliper for leaks.
25. Check carburetor controls and adjustment.
26. Inspect brake pad linings and brake discs for wear.
27. Check oil lines and fittings for leaks.
28. Road test.

CHECK AT FIRST 1000 MILES

1. Drain oil tank through drain plug and refill with fresh oil.
2. Clean oil filter (if applicable).
3. Check level of oil in transmission and front chain compartments and add oil if needed. Use same grade of oil used in engine.
4. Service air cleaner.
5. Check and adjust chains.
6. Check lubrication and condition of rear chain and adjust rear chain oiler if necessary.
7. Check battery solution level and add distilled water if needed. Make sure terminals are clean and connections tight.
8. Check tappet adjustment and readjust if necessary.
9. Check circuit breaker points and adjust if needed.
10. Check clutch adjustment.
11. Check brake adjustment.
12. Check tire pressure and inspect tread.
13. Check gasoline supply valve, lines, and fittings to be sure there are no leaks.
14. Check fluid level in master cylinder reservoir.
15. Check and tighten spokes.
16. Check carburetor controls and adjustment.
17. Lubricate all controls and fittings.
18. Inspect brake linings and discs.
19. Check all lines and brake system for leaks.
20. Check all fasteners (nuts, bolts, screws) and make sure they are tight. See torque chart.
21. Check tightness of cylinder base nuts and cylinder head bolts. See torque chart.
22. Road test.

All operations are fully described in subsequent sections.

REGULAR SERVICE INTERVALS

(Figures 1-1 through 1-7)

SUGGESTED OPERATIONS FOLLOWING THE INITIAL BREAK-IN PERIOD

Regular Service Interval	Index No.	Grease	Index No.	Oil	Index No.	Service
300 Miles			7	Rear Chain (Manual) (1977 & later)		
Every 1000 miles	31 16 19 11 12	Rear brake foot lever shaft Kick starter shaft Rear brake lever at drum Speedometer drive Circuit breaker cam-shaft	7 21 1 22 37 28 17	Rear chain (with oiler) (1976 & earlier) Clutch hand lever Brake hand lever Clutch control cable Rear brake cable Throttle control cable Rear brake rod clevis	4 25 7 36 15 2,17 30	Inspect tires Check spokes Check oil lines and brake system for leaks Air cleaner Battery Rear chain adjustment Gasoline valve, lines and fittings Check fastener tightness Clutch adjustment Brake adjustment Front chain adjustment
Every 2000 miles	8 31 15 14 6 32 31	Front brake shaft Rear brake crossover shaft (1974 & earlier) Clutch release worm (1970) Foot shift lever Seat bar roller and bolt Rear wheel hub Foot shift crossover shaft (1975-76)	9 2 26	Front brake cable clevis Front brake cable Seat post (saddle only)	13 5 20 12 35 24	Tappet adjustment Oil filter Check carburetor controls Rear chain oiler (1976 & earlier) Circuit breaker points Check brake fluid Inspect, clean and gap spark plugs Check fastener tightness
Every 5000 miles or 1 year (whichever comes first)	3 34	Throttle control spiral Speedometer and tachometer cables			10 18 24 5 12 29 33 23	Check front and rear fork bearing adjustment Replace: Spark plugs Oil filter element Inspect tires Time ignition Clean gas tank strainer Check generator brushes Check shock rubber bushings Change front fork oil (1973 & later) Change brake fluid
Every 10,000 miles	18 27	Repack rear fork pivot bearings Repack wheel bearings				
Weekly						Check tires Check battery

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