

# SHOP MANUAL

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## HONDA 250·350

MODELS

CB250

CL250

CB350

CL350

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# FOREWORD

This Manual is a guide to the inspection and servicing of the Honda motorcycle, Honda 250/350, Models CB250/350 and CL250/350.

The CL350 is used as a base for this manual, therefore, the photographs and drawings are of this model. However, since all models are practically identical, the information contained will apply equally well to the other models.

Any information which are peculiar to any of the models will be identified to the applicable model by the use of the codes listed below.

Applicable To	Code
All CB/CL250, 350 models	Honda 250/350
All CB250, CB350 models	CB250/350
All CL250, CL350 models	CL250/350
All CB250, CL250 models	CB/CL250
All CB350, CL350 models	CB/CL350

Service and maintenance procedures are outlined in detail to enable the shop personnel to locate the problems rapidly and make repairs with much saving in time.

This manual has been prepared by major groups, assemblies and sections for easy use. Further, all work procedures are descriptive and accompanied by many photographs and drawings for clarity.

Changes to any portion of this manual or supplement information will be notified by the Service Bulletin.

Keep in mind that proper servicing produces satisfied customer and satisfied customer is good business.

**HONDA MOTOR CO., LTD.**

SERVICE DIVISION

# FEATURES

The engines used on these model have the inlet and exhaust system designed to provide high output and the functional components are laid out efficiently for high performance. The frame effectively utilizes the combination of steel sheet and tubing to produce a lightweight and sturdy unit. Further, the motorcycles are designed to withstand high speed riding, operation on rough roads and other unusual road conditions. The CL model engines are based on the CB model engine with the following changes: ① different valve timing, ② different carburetor setting, and changes have also been made to part of the frame for conversion to a sports motorcycle for touring and riding over rough fields.

## ENGINE

1. Engine design is of a 4 cycle aircooled, side-by-side, vertical twin cylinder, overhead camshaft gasoline engine.
2. The cylinder head is an aluminum alloy casting made independent of the camshaft and rocker arm support housing for greater strength and effective cooling.
3. Tappet clearance adjustment  
Adjustment for the tappet clearance is made by rotating the eccentric rocker arm pin.
4. Valve mechanism  
The camshaft is driven by an endless cam chain drive system which is kept under constant tension by an automatic hydraulically operated chain tensioner. Further, the chain guide roller is installed to provide smooth chain operation under all types of operating condition, assuring quiet and trouble free service.
5. Carburetor  
The carburetor is a variable venturi type which automatically operates the throttle valve by the suction pressure and provide a venturi opening consistant with the engine speed. The operation of the throttle grip is constantly maintained to provide engine speed without overloading.
6. Crankshaft  
Ball bearing is used to mount the right side while needle bearings are used for the center and left side mounting.
7. Primary reduction  
The use of the double spur gear has eliminated the noise and increased the service life of the gears.

8. Lubrication

Plunger type pump is used to provide the pressure to the oil pressure lubricating system. Further, a system of dual filters, centrifugal and filter element, is employed to improve the filtration and minimize the wear to the component parts.

9. The CL models use essentially the same engine as the CB models with the exception of the difference in exhaust and the valve timing. This will change the output curve toward the lower end of the speed range and improve the operation on rough fields.

## FRAME

1. Frame body

The structural members of the main frame unit are constructed of steel sheet and tubing into an efficient semi-double cradle design featuring light weight and high strength.

2. Front and rear suspension

Front suspension is a telescopic hydraulic damper type; the bottom case is made of aluminum alloy for lightness. Rear suspension is a swing arm type of tubular constructed for greater strength. Further, both cushions utilizes longer stroke for comfortable riding.

The handle is a raised type designed wide for operating equally well on highway or rough fields.

3. Tire

Large tires are used on both wheels, for good stability and improved riding comfort, 3.00-18 on the front and 3.50-18 on the rear.

The CL250/350 uses 3.00-19 on the front and 3.50-18 on the rear, the use of the large size tires with block tread pattern assures higher stability on rough uncharted fields.

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## 1. TECHNICAL DATA

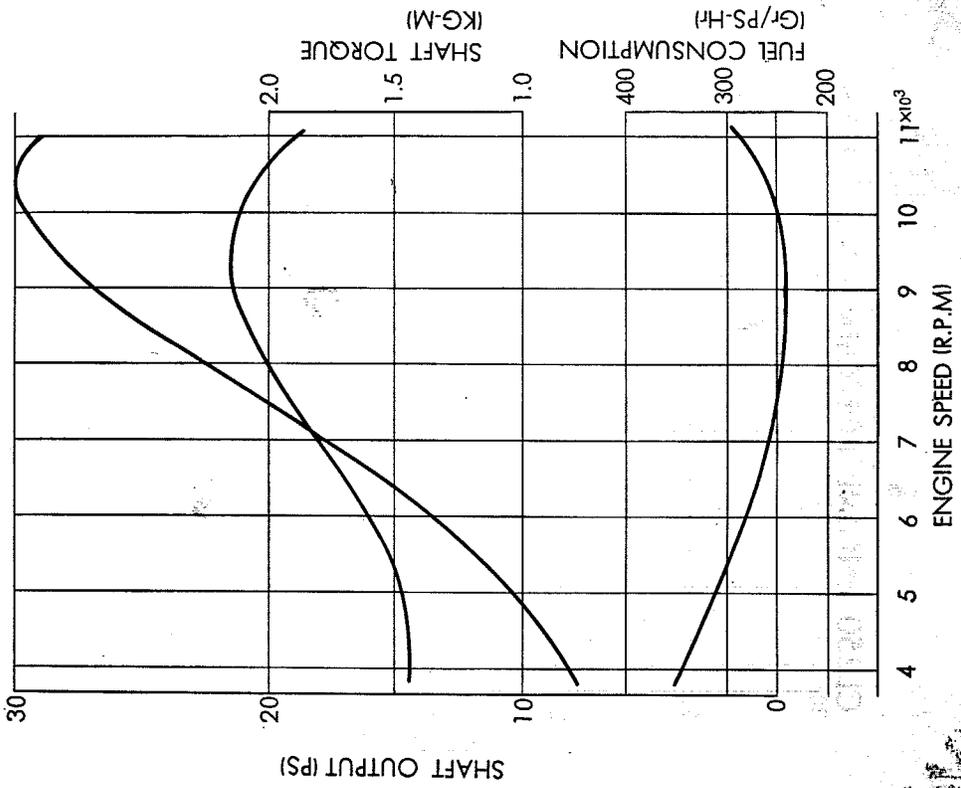
\* Indicate U.S.A. type

Item	Model	CB250	CL250	CB350	CL350
<b>DIMENSIONS</b>					
Overall length		2090 mm (82.3 in)	2100 mm (82.7 in)	* 2010 mm (79.2 in) 2090 mm (82.3 in)	* 2020 mm (79.5 in) 2100 mm (82.7 in)
Overall width		775 mm (30.5 in)	830 mm (32.7 in)	775 mm (30.5 in)	830 mm (32.7 in)
Overall height		1075 mm (42.3 in)	1090 mm (42.9 in)	1075 mm (42.3 in)	1090 mm (42.9 in)
Wheel base		1320 mm (52.0 in)	Same as left	1320 mm (52.0 in)	Same as left
Ground clearance		150 mm (5.9 in)	180 mm (7.1 in)	150 mm (5.9 in)	180 mm (7.1 in)
Curb weight		160 kg (352.8 lb)	157 kg (345.4 lb)	160 kg (352.8 lb)	157 kg (345.4 lb)
Weight distribution F/R		96/124 kg (211.7/273.4 lb)	91/126 kg (200.7/277.8 lb)	96/124 kg (211.7/273.4 lb)	91/126 kg (200.7/277.8 lb)
<b>FRAME</b>					
Type		Semi-double, cradle	Same as left	Same as left	Same as left
Suspension, front		Telescopic fork	Same as left	Same as left	Same as left
Suspension, rear		Swinging arm	Same as left	Same as left	Same as left
Tire size, front		3.00-18 (4 PR)	3.00-19 (4 PR)	3.00-18 (4 PR)	3.00-19 (4 PR)
Tire size, rear		3.25-18 (4 PR)	3.50-18 (4 PR)	3.50-18 (4 PR)	3.50-18 (4 PR)
Brake, front, lining area		Internal expansion, 52.2 cm <sup>2</sup> × 2		Same as left	Same as left
Brake, rear, lining area		Internal expansion, 51.0 cm <sup>2</sup> × 2		Same as left	Same as left
Fuel capacity		12 lit. (3.2 US gal., 2.6 imp. gal.)	9 lit. (2.4 US gal., 2.0 imp. gal.)	12 lit. (3.2 US gal., 2.6 imp. gal.)	9 lit. (2.4 US gal., 2.0 imp. gal.)
Caster angle		63°	Same as left	Same as left	Same as left
Trail length		85 mm (3.35 in)	95 mm (3.74 in)	85 mm (3.35 in)	95 mm (3.74 in)
<b>ENGINE</b>					
Type		O.H.C. twin cylinder, air-cooled 4-stroke		Same as left	Same as left
Cylinder arrangement		Vertical, twin parallel.		Same as left	Same as left
Bore and stroke		56 × 50.6 mm (2.205 × 1.992 in)		64 × 50.6 mm (2.52 × 1.992 in)	
Displacement		249 cc (15.21 cu-in)	Same as left	325 cc (19.8 cu-in)	Same as left
Compression ratio		9.5	Same as left	Same as left	Same as left
Carburetor		Constant velocity type, Keihin		Same as left	Same as left
Valve train		Chain driven overhead camshaft		Same as left	Same as left
Max. horsepower		30 PS/10500 rpm	27 PS/10,000 rpm	36 PS/10,500 rpm	33 PS/9,500 rpm
Max. torque		2.14 kg-m/9,500 rpm (15.5 ft-lb/9,500 rpm)	2.07 kg-m/8,000 rpm (15 ft-lb/8,000 rpm)	2.55 kg-m/9,500 rpm (18.5 ft-lb/9,500 rpm)	2.69 kg-m/8,000 rpm (19.5 ft-lb/8,000 rpm)

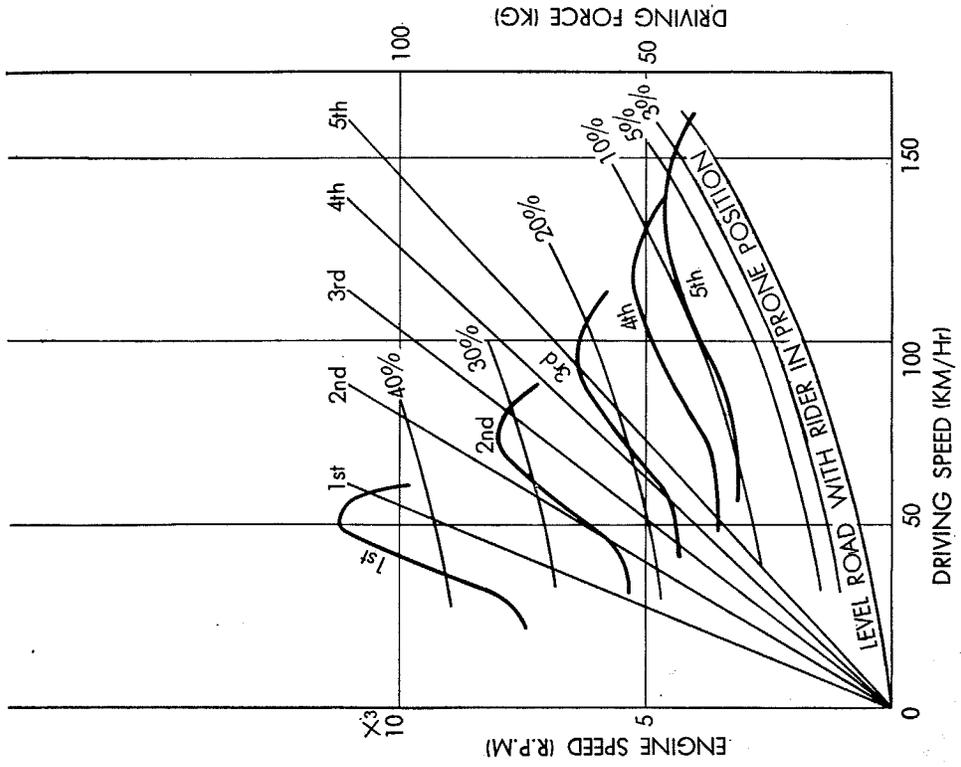
## 1. TECHNICAL DATA

Item \ Model	CB250	CL250	CB350	CL350
Oil capacity	2 lit. (2.1 U.S. quart, 1.8 imp. quart)	Same as left	Same as left	Same as left
Lubrication system	Forced and wet sump	Same as left	Same as left	Same as left
Fuel required	Octance number above 95	Same as left	Same as left	Same as left
Engine weight (Include oil)	52.5 kg (115.5 lb)	Same as left	Same as left	Same as left
<b>DRIVE TRAIN</b>				
Clutch	Wet, multi-plate type	Same as left	Same as left	Same as left
Transmission	5 speed forward, constant mesh		Same as left	Same as left
Primary reduction	3.714	Same as left	Same as left	Same as left
Gear ratio 1st	2.353	Same as left	Same as left	Same as left
2nd	1.636	Same as left	Same as left	Same as left
3rd	1.269	Same as left	Same as left	Same as left
4th	1.036	Same as left	Same as left	Same as left
5th	0.900	Same as left	Same as left	Same as left
Final reduction	2.375	2.625	2.250	2.375
<b>ELECTRICAL</b>				
Ignition	Battery	Same as left	Same as left	Same as left
Starting system	Motor and Kick	Same as left	Same as left	Same as left
Battery capacity	12V-12AH	Same as left	Same as left	Same as left
Spark plug	NGK B-8ES	Same as left	Same as left	Same as left
<b>PERFORMANCE</b>				
Max. Speed in gear 1st	58 kph (36 mph)	55 kph (34.2 mph)	60 kph (37.3 mph)	58 kph (36 mph)
Max. Speed in gear 2nd	85 kph (52.8 mph)	80 kph (49.7 mph)	90 kph (55.9 mph)	85 kph (52.8 mph)
Max. Speed in gear 3rd	113 kph (70.2 mph)	105 kph (65.2 mph)	120 kph (74.5 mph)	114 kph (70.8 mph)
Max. Speed in gear 4th	140 kph (87 mph)	130 kph (80.7 mph)	148 kph (91.9 mph)	140 kph (87 mph)
Max. Speed in gear 5th	160 kph (100 mph)	150 kph (93.2 mph)	170 kph (105.6 mph)	160 kph (100 mph)
Fuel consumption	45 km/lit. at 50 kph (106 mile/US gal., 127 mile/imp. gal. at 31 mph)		45 km/lit. at 60 kph (106 mile/US gal., 127 mile/imp. gal. at 37 mph)	
Climbing ability	20°	20°	20°	20°
Turning circle	4.2 m (13.8 ft)	4.4 m (14.4ft)	4.2 m (13.8 ft)	4.4 m (14.4 ft)
Stopping distance	14.5 m at 50 kph (47.6ft at 31 mph)	Same as left	14 m at 50 kph (46 ft at 31 mph)	Same as left

CB250 ENGINE PERFORMANCE CURVE

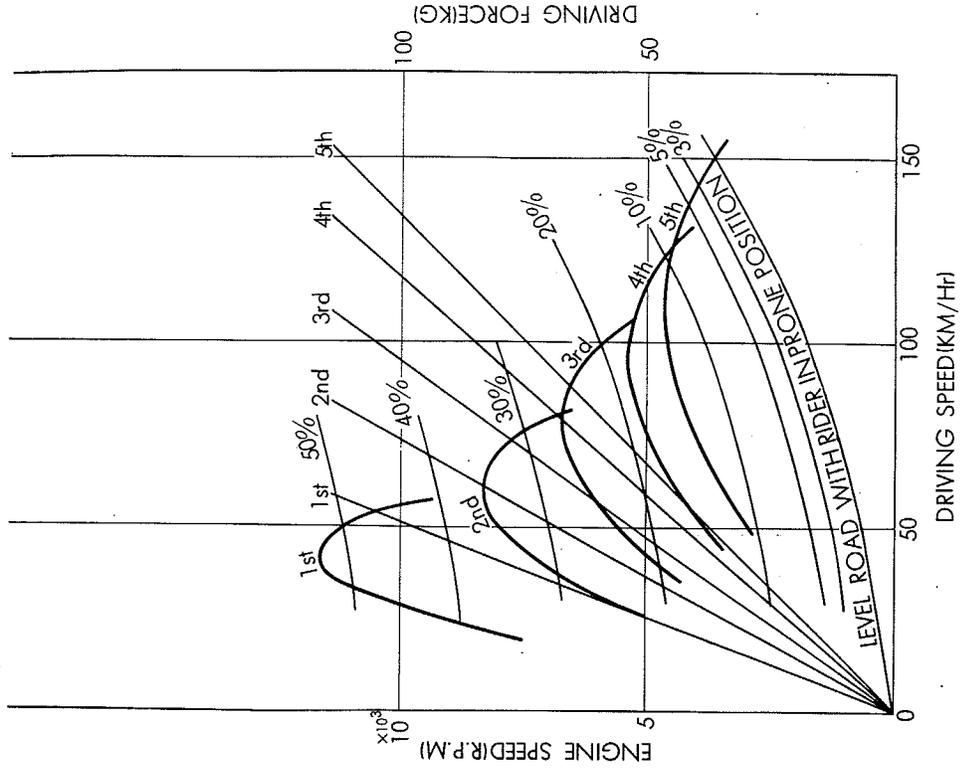


CB250 DRIVING PERFORMANCE CURVE

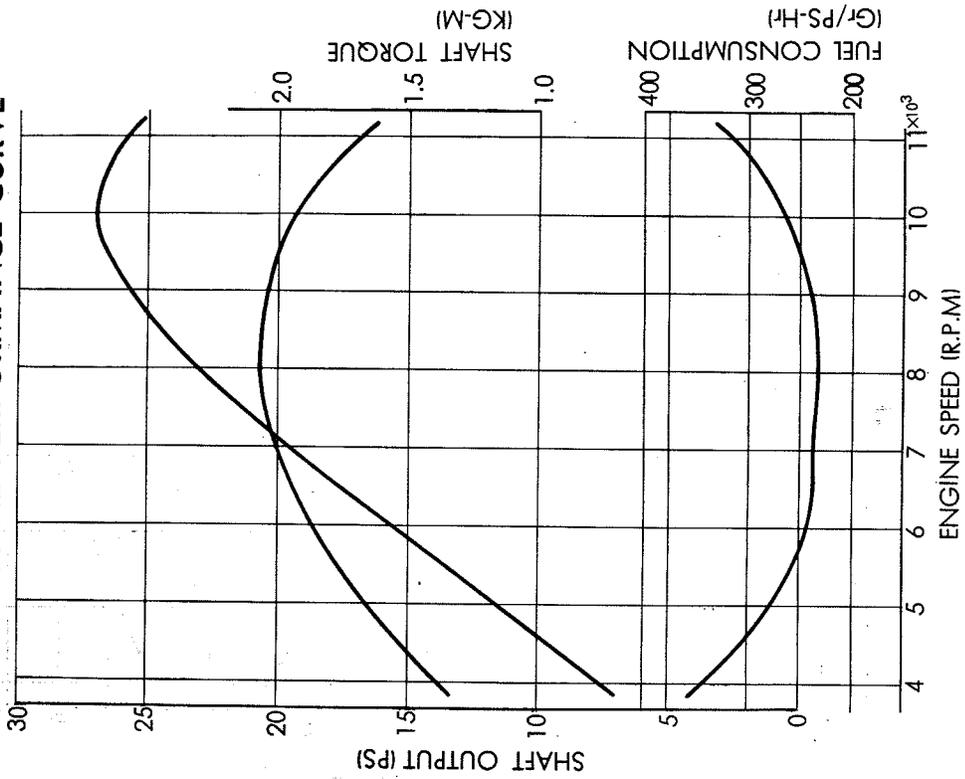


1. PERFORMANCE CURVE

CL250 DRIVING PERFORMANCE CURVE

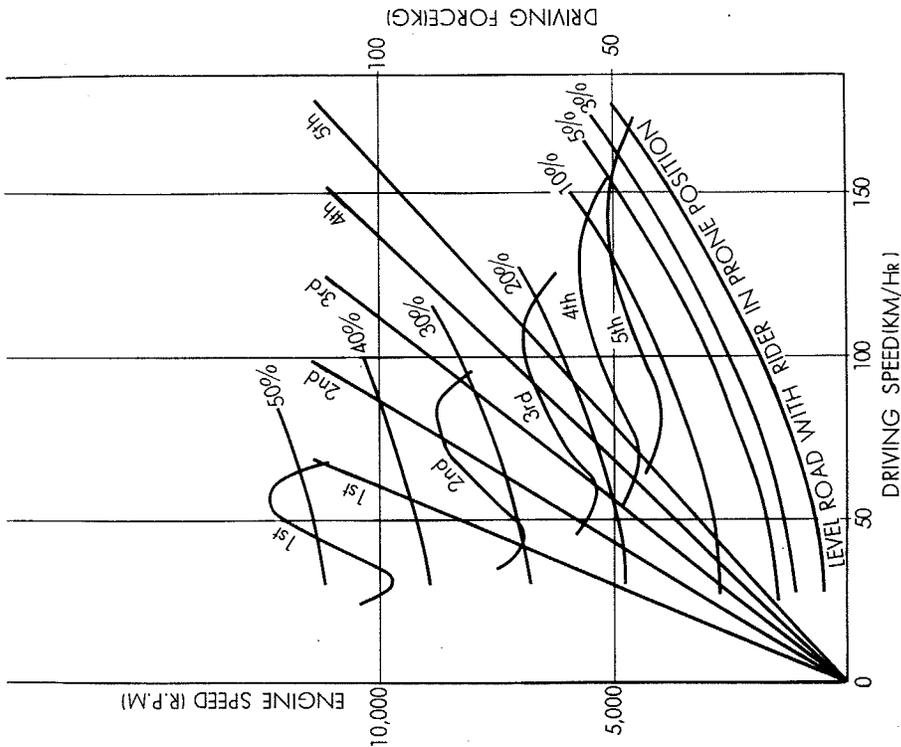


CL250 ENGINE PERFORMANCE CURVE

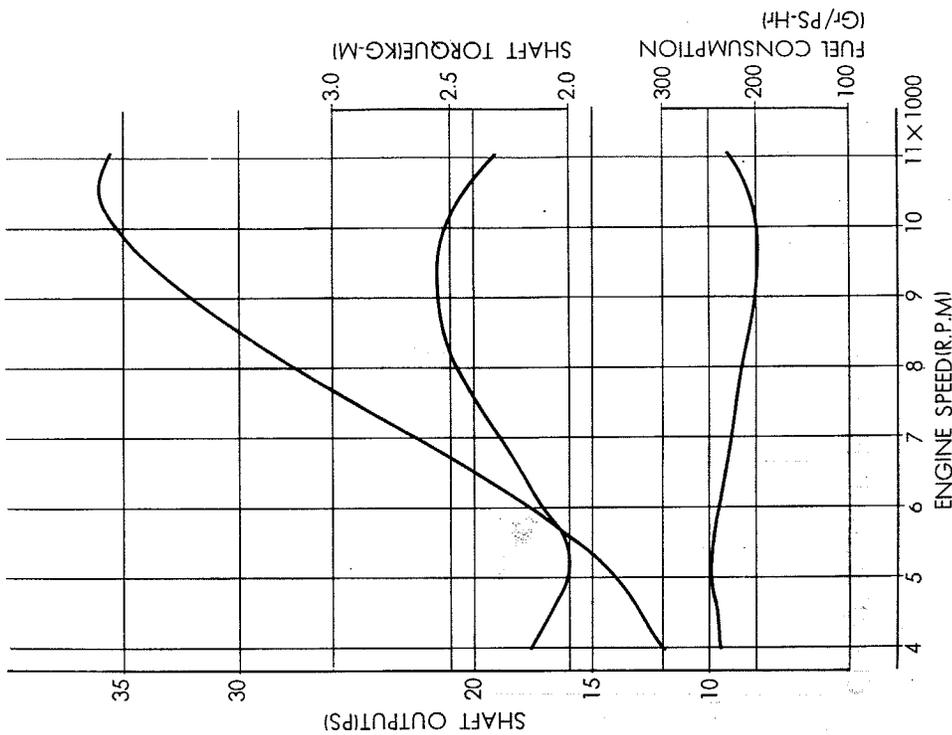


1. PERFORMANCE CURVE

CB350 DRIVING PERFORMANCE CURVE

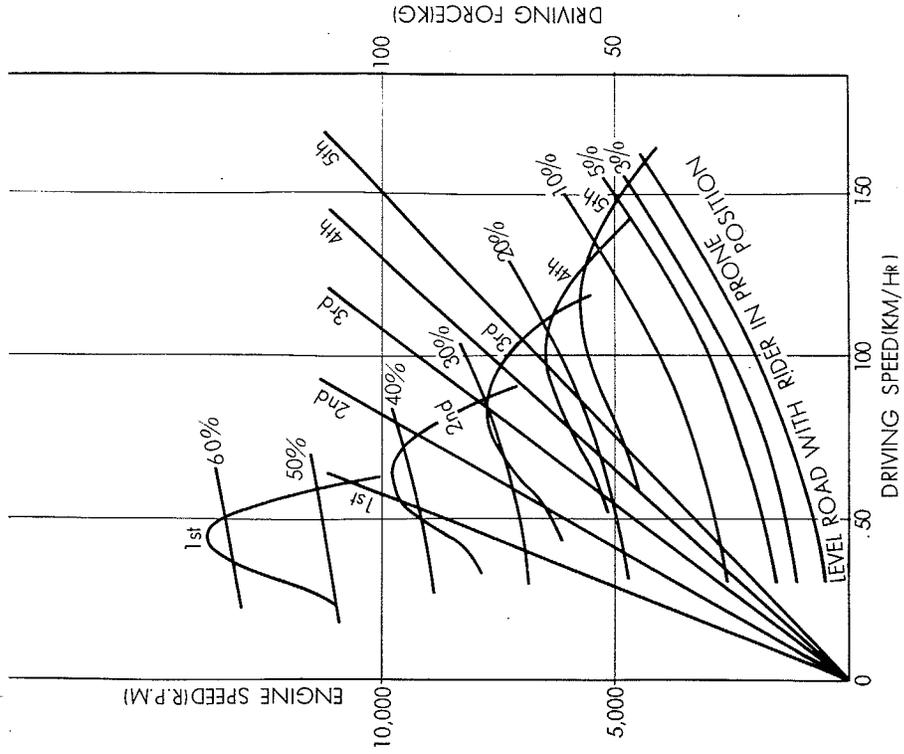


CB350 ENGINE PERFORMANCE CURVE

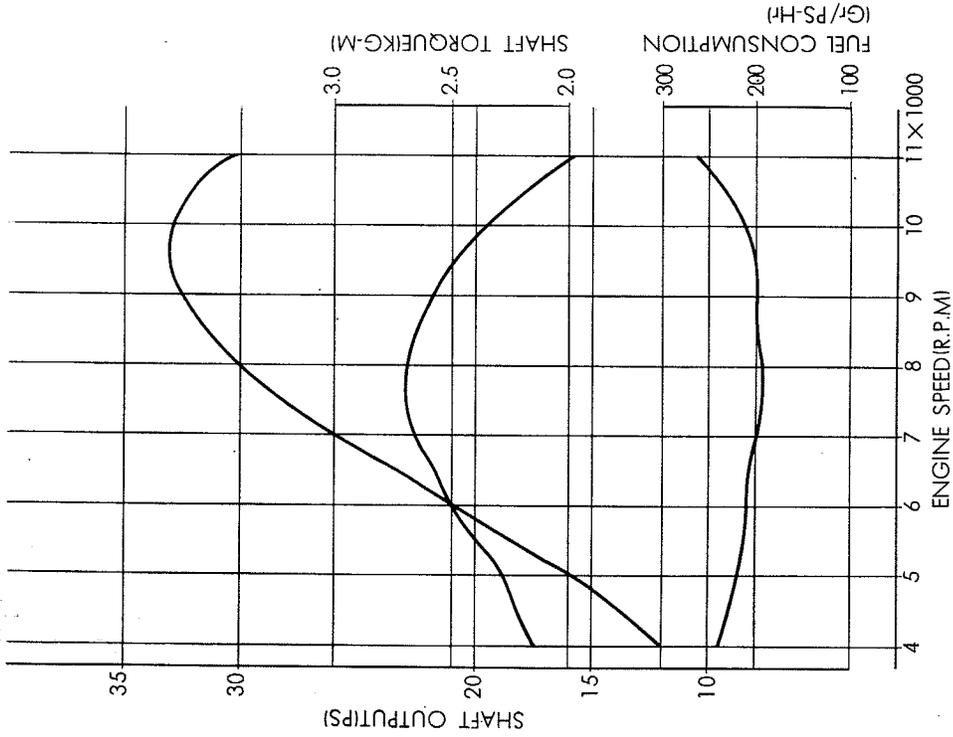


1. TECHNICAL DATA & PERFORMANCE CURVE

CL350 DRIVING PERFORMANCE CURVE

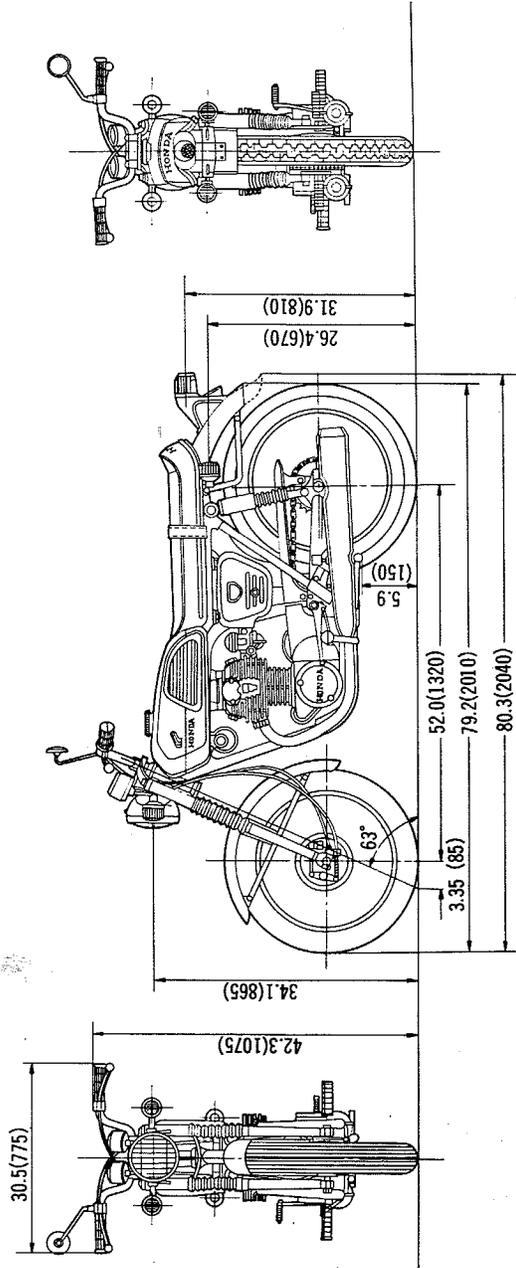
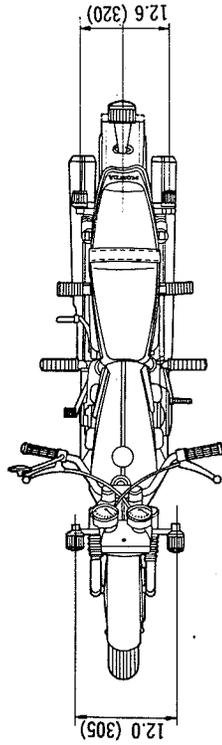


CL350 ENGINE PERFORMANCE CURVE



**CB250/350 DIMENSIONAL DRAWING**

unit: inch(mm)



----- INDICATE GENERAL EXPORT TYPE