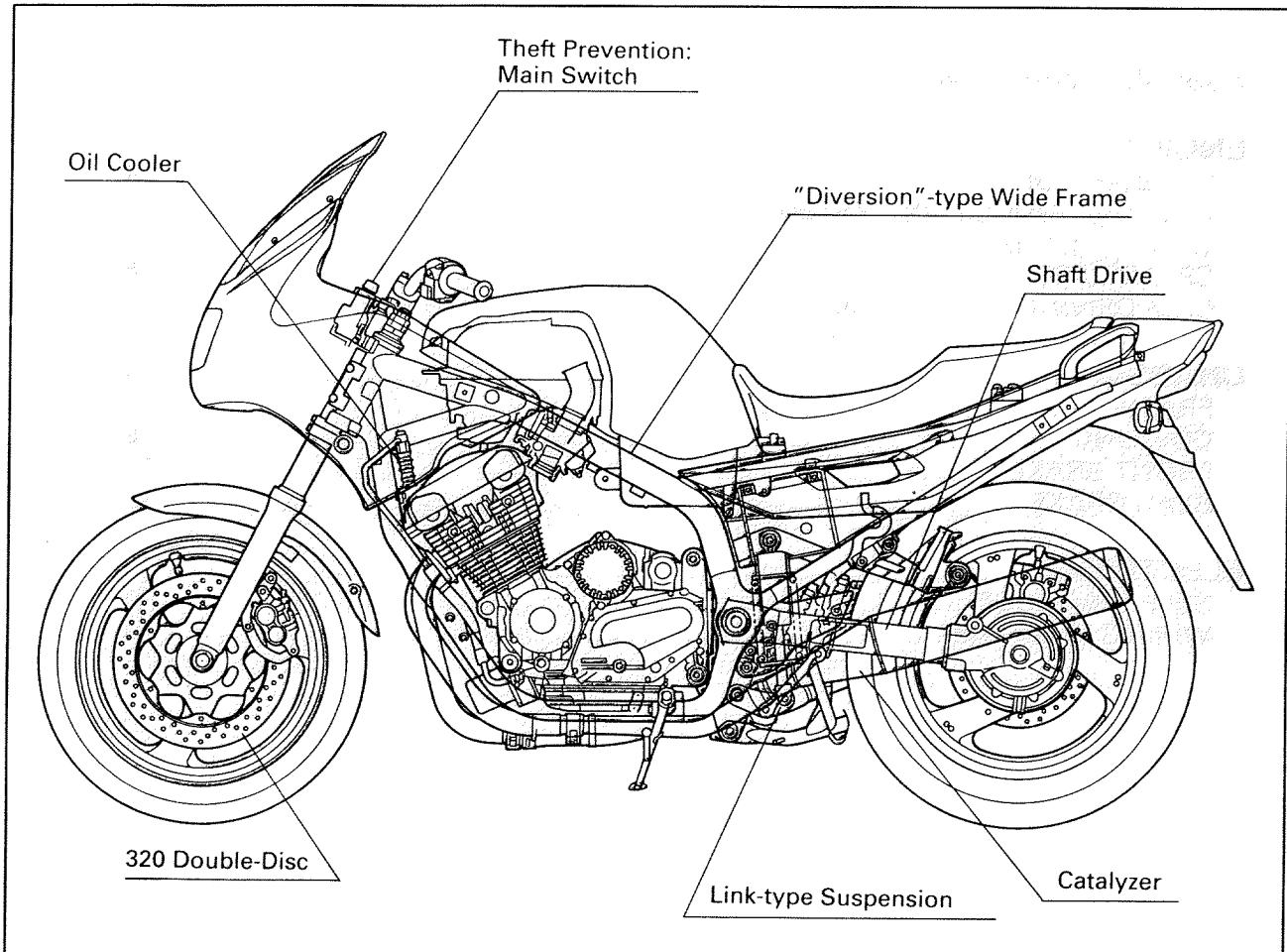


XJ900S OVERVIEW

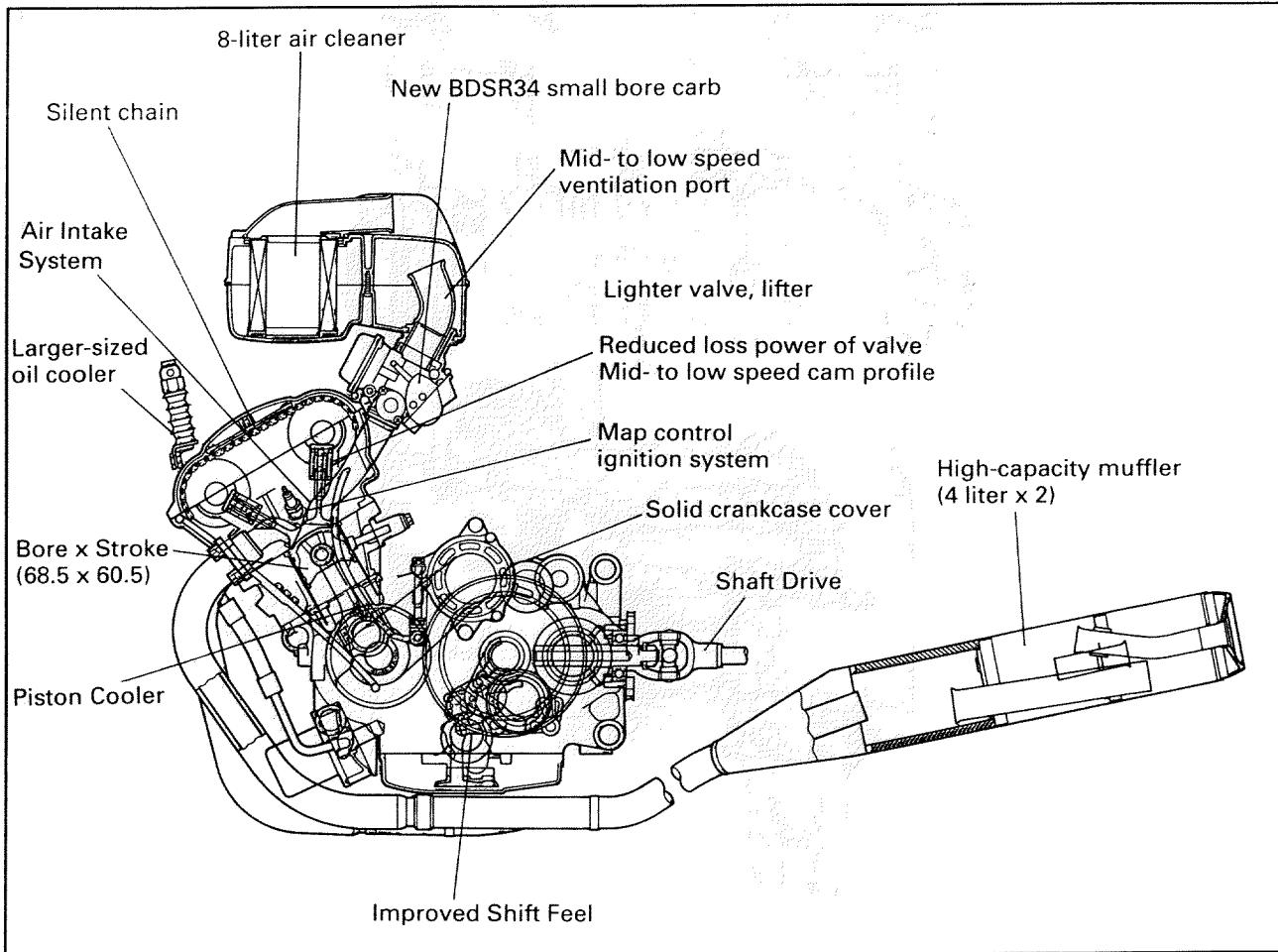


SPECIFICATIONS	
Engine Arrangement	Air-Cooled 4-Cycle (Forward-inclining 4-cylinder)
Bore x Stroke	68.5 mm x 60.5 mm
Compression Ratio	10.0 : 1
Transmission	5-Speed
Carburetor Type/Manufacturer	BDSR34 x 4/Mikuni
Ignition System	Full-Transistor
Starting System	Electric starter

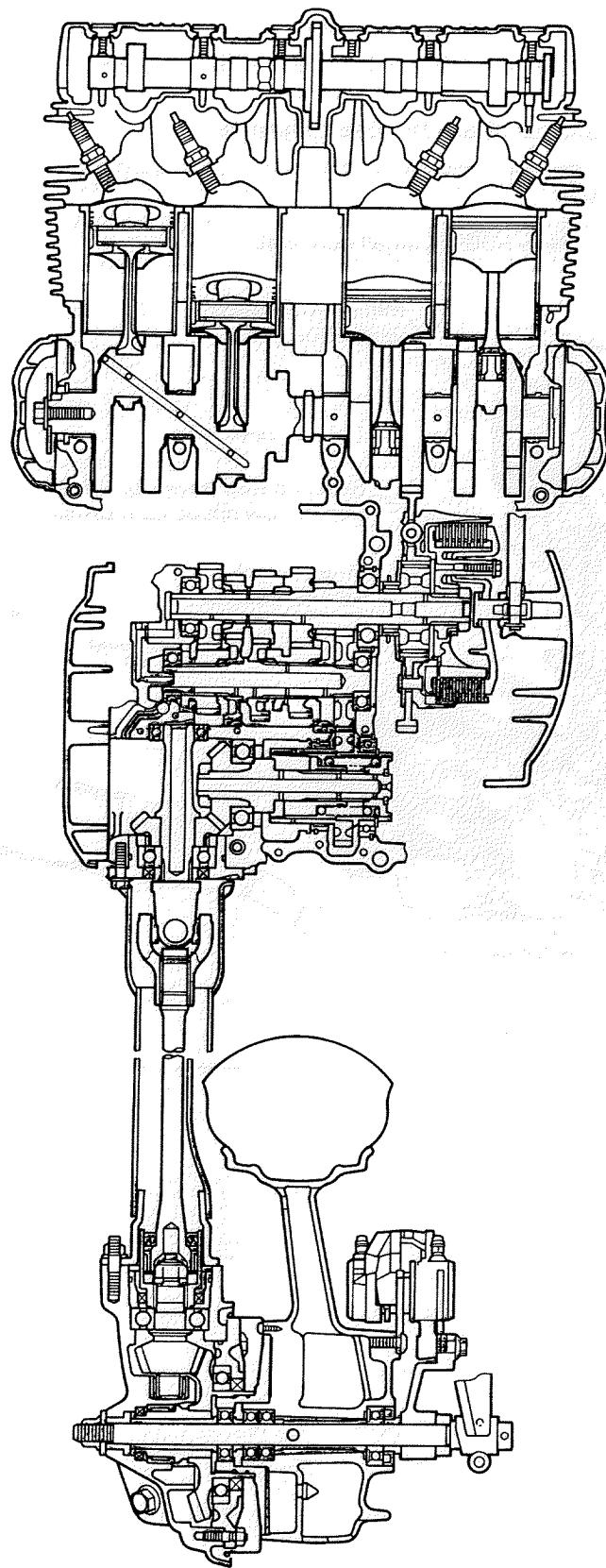
ENGINE

The XJ900S uses a two-valve, air-cooled DOHC forward-inclining 4-cylinder engine with displacement exhaust amount of 892cc. The most important characteristic of this engine is that it provides a stress-free, powerful, and smooth ride. It provides superior acceleration response at medium speeds.

Additionally, it has the benefits of sharp throttle response.

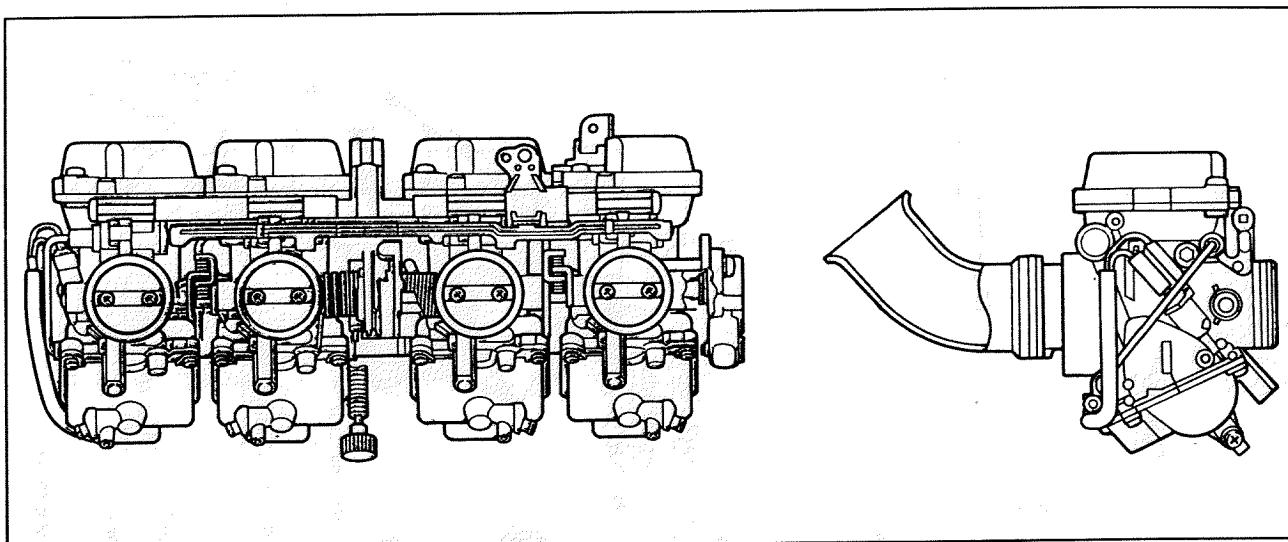


SECTIONAL VIEW OF ENGINE



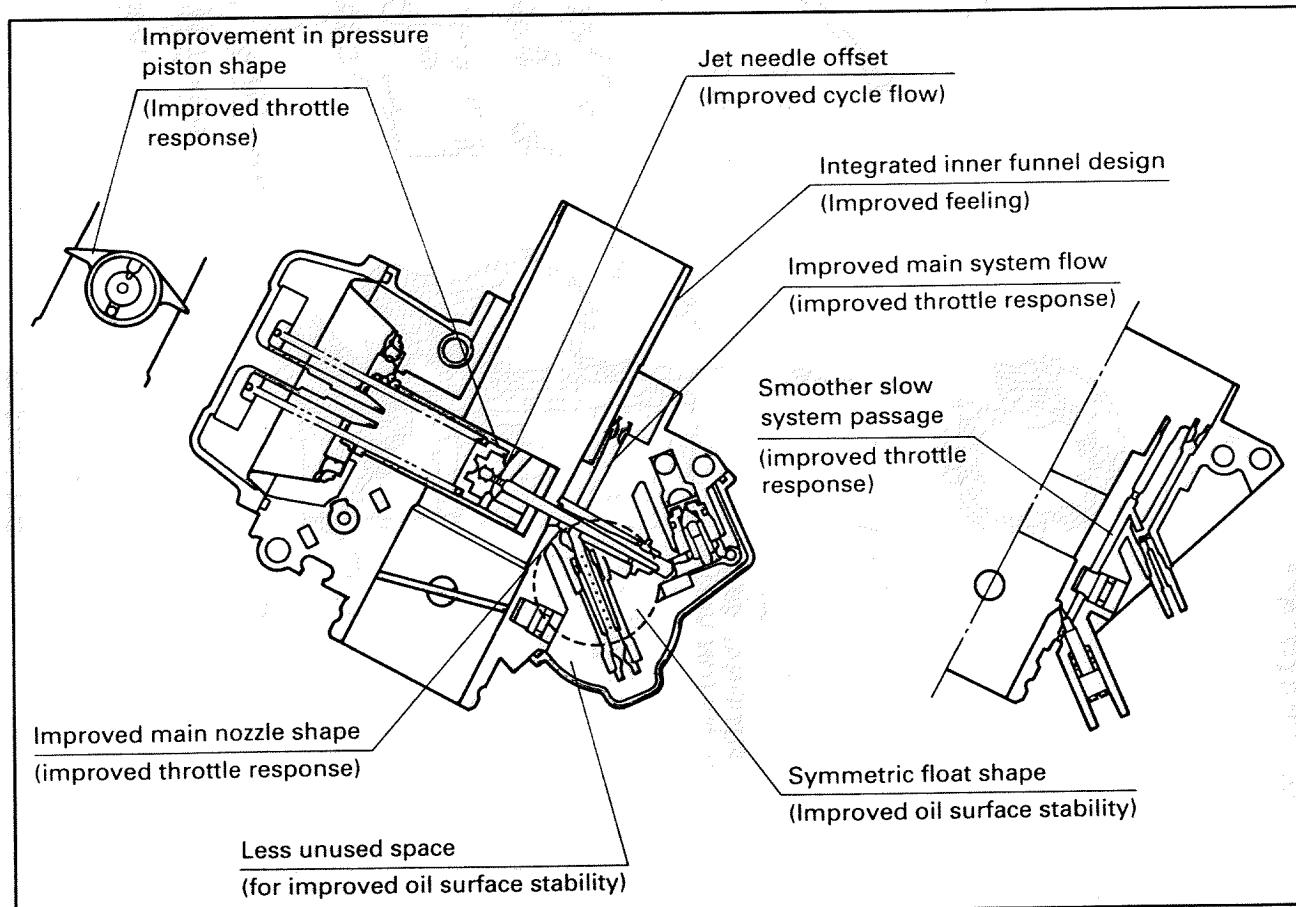
CARBURETOR

In order to improve carburetor performance at low to medium speeds, the new Mikuni BDSR34 has been installed.

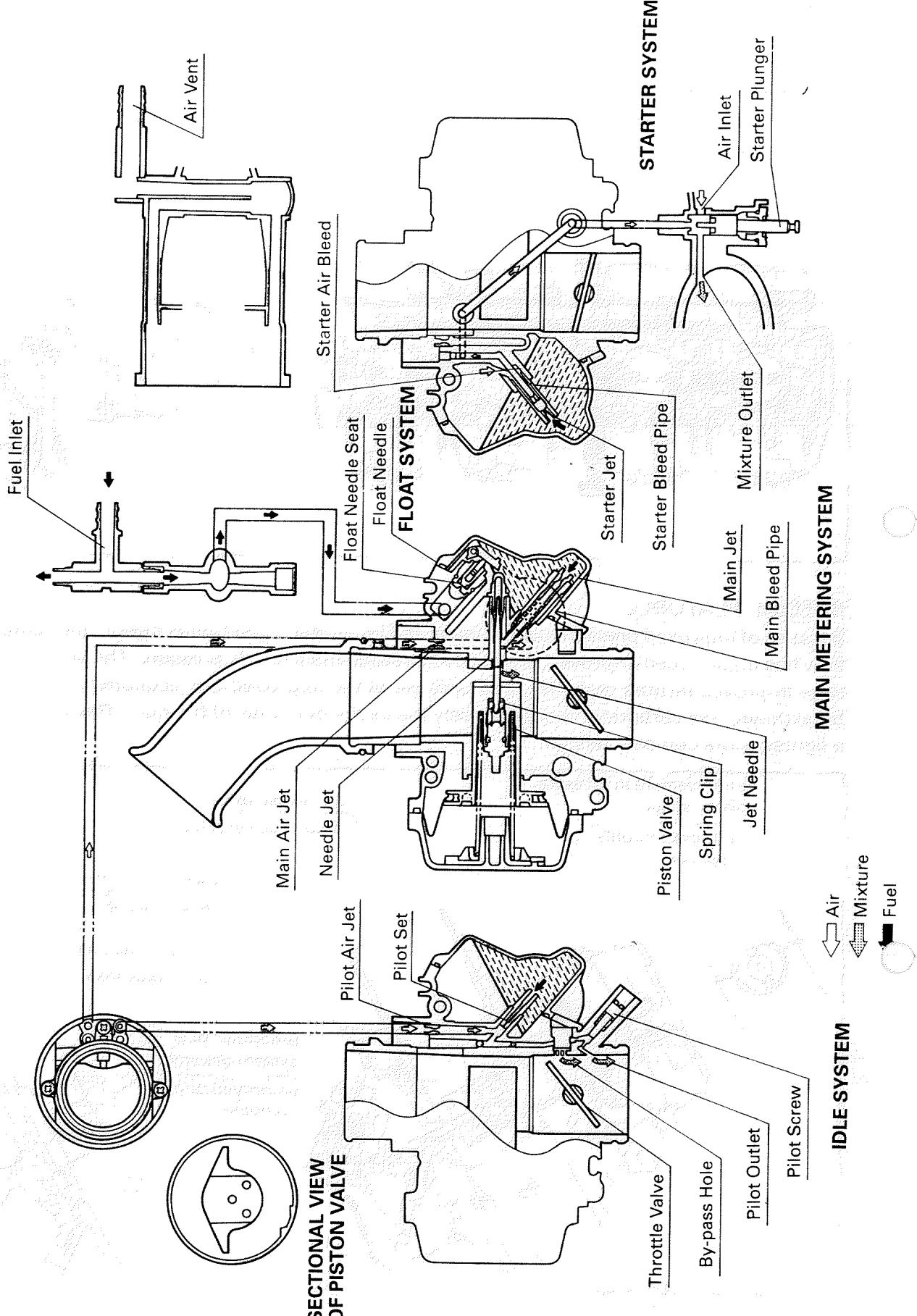


SPECIAL FEATURES

Because of improved pressure piston shape and integrated inner funnel design, the venturi rectifier flow has in turn been improved to provide increased main nozzle pressure. The smoother fuel passage improves throttle response, and because of the improved fuel economy (due to better fuel breakdown), the carburetor more precisely meets the demands of the rider. This also provides for a lighter, more compact design.



ROUTING DIAGRAM

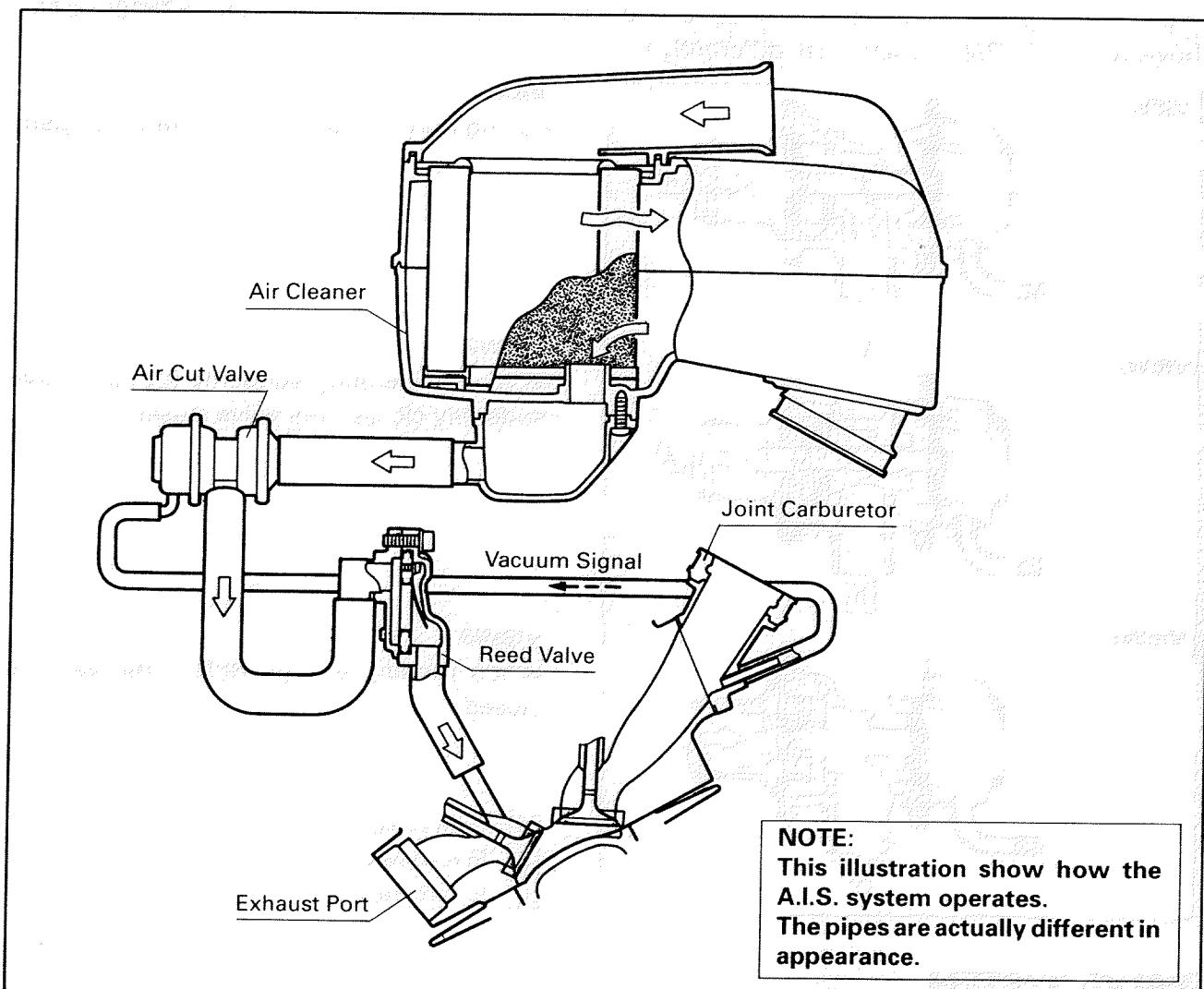


A.I.S. (AIR INDUCTION SYSTEM)

AIR INJECTION

This system reburns unburned exhaust gas by mixing fresh air (secondary air) in at the exhaust port to reduce hydrocarbon.

When the pressure around the exhaust port is reversed (negative), the reed valve is opened and the secondary air flows into the exhaust port. Required temperature for reburning of unburned exhaust gas is approximately 600° to 700°C.

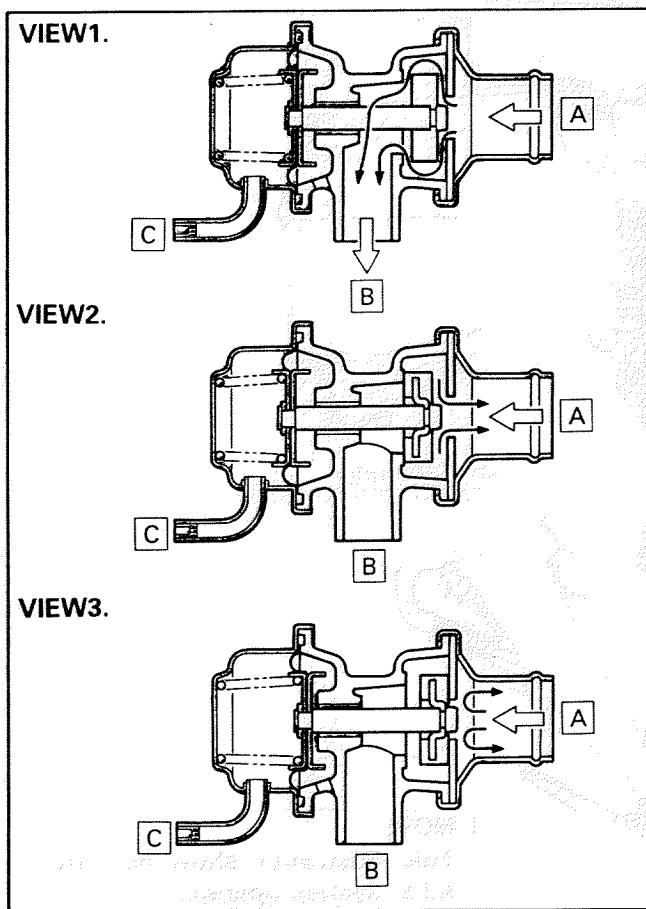


AIR CUT VALVE

The air cut valve is operated by intake gas pressure through the diaphragm. Normally, this valve is opened in order to allow fresh air to flow into the exhaust port. When the throttle is closed rapidly, negative pressure is generated and this valve is closed in order to prevent after-burning.

Additionally, even if the engine is run at high RPM and the pressure decreases, the valve automatically closes in order to guard against a loss of performance due to self-E.G.R. (Exhaust Gas Recirculation).

(This "low-boost close" function is the same as the A.I.S. air cut valve function on the FZR600 (3HW), however, the XV750 models work differently.)



VIEW1.
During normal operation, the valve is open.

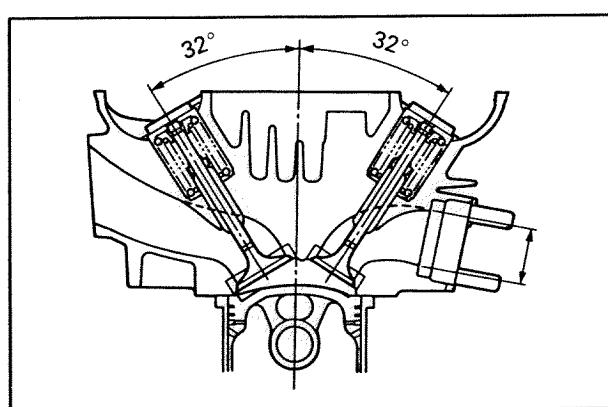
VIEW2.
When decelerating suddenly (throttle valve suddenly closes), the valve closes.

VIEW3.
When running at high RPM's, the valve is closed.

- [A] From air cleaner
- [B] To reed valve
- [C] To carburetor joint

VALVE SYSTEM

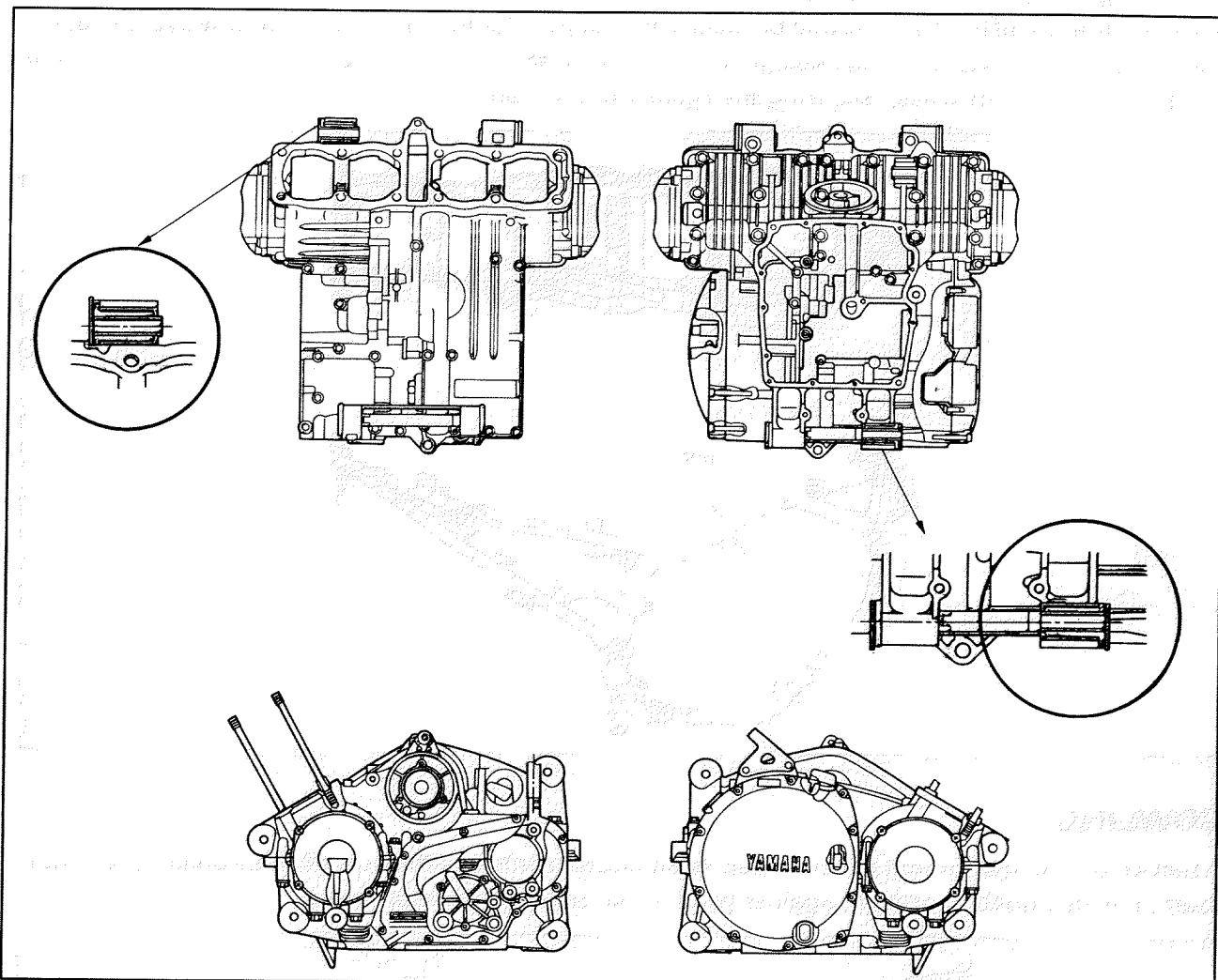
Higher revolutions can be obtained due to a smaller valve radius and a lighter valve. In addition, a narrow radius (M12) plug is used, not to mention that the combustion chamber has been made more compact, achieving a higher compression ratio (10.0:1) and better combustion.



	XJ900	XJ900S
Ventilation valve radius	ø36 mm	ø34 mm
Exhaust valve radius	ø30 mm	ø28 mm
Valve lifter radius	ø33 mm	ø28 mm

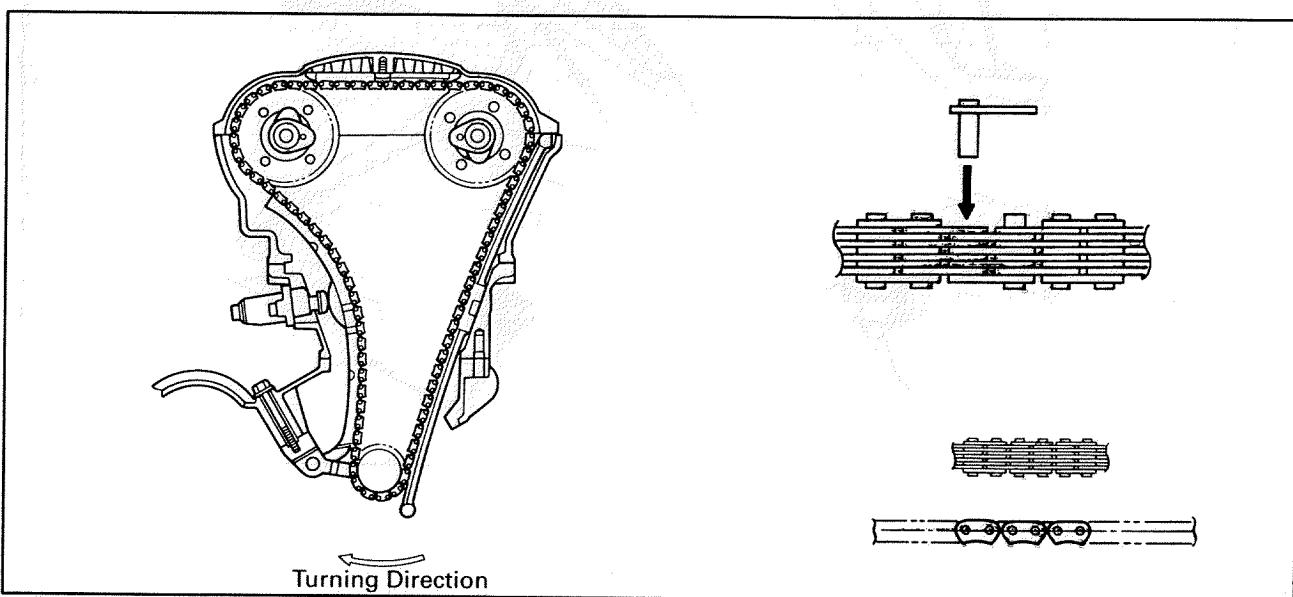
CRANKCASE

Mechanical noise has been cut down due to a solid crankcase/cover. Undesirable vibrations within the full range of engine revolutions have been reduced by use of a 4-point rubber mount.



CAM-DRIVE MECHANISM

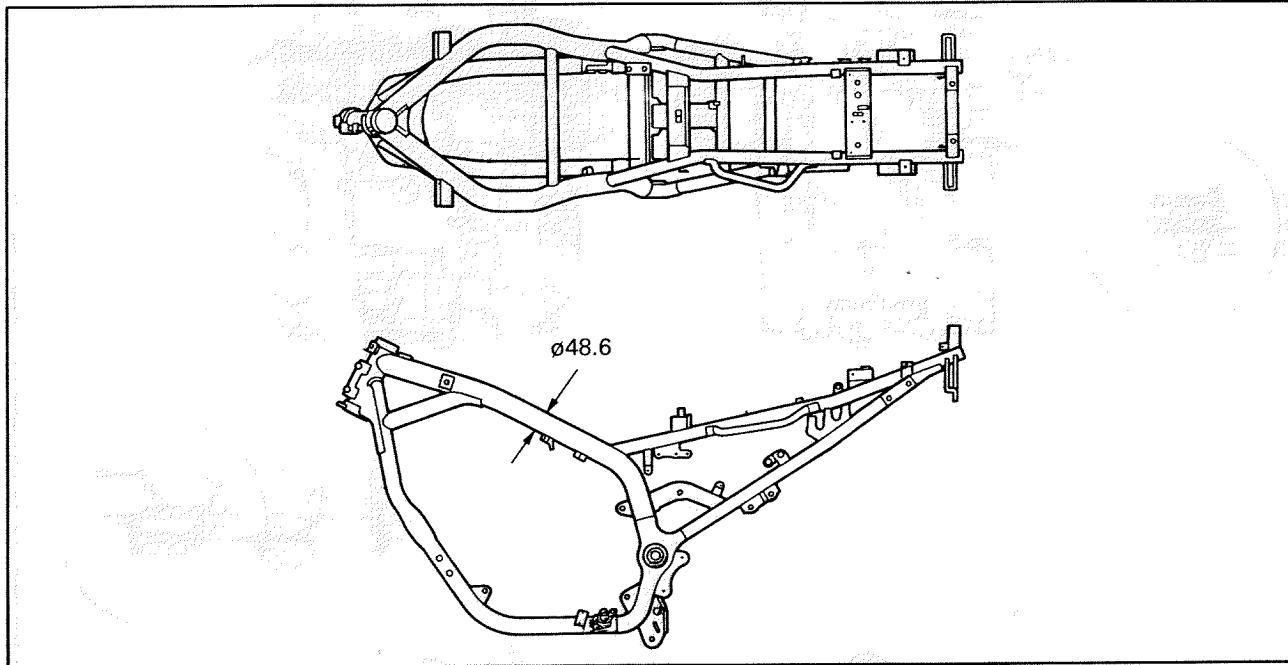
The use of a solid crankcase/cover and silent chain serves to cut down mechanical noise.



CHASSIS FRAME

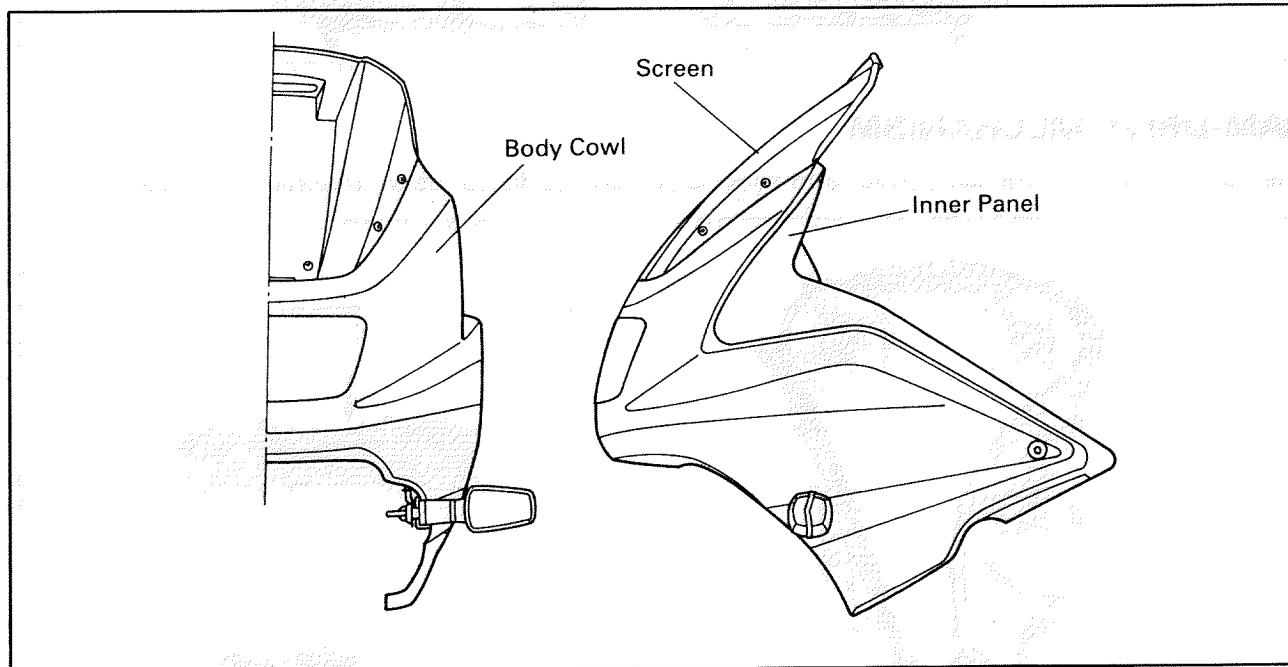
A solid high-tension double cradle is used in the frame.

The main feature of this frame is that because it is designed for the full-floating engine system, attention is made on providing a solid design. In particular, a 48.6 mm thick steel pipe is used for the tank rail (the thickest in its class), securing the rigidity of the frame.



COWLING

A half-cowl with instrument panel is used. In addition to bringing the flow of air turbulence to a minimum, it is designed to prevent against wind for an optimum compromise.

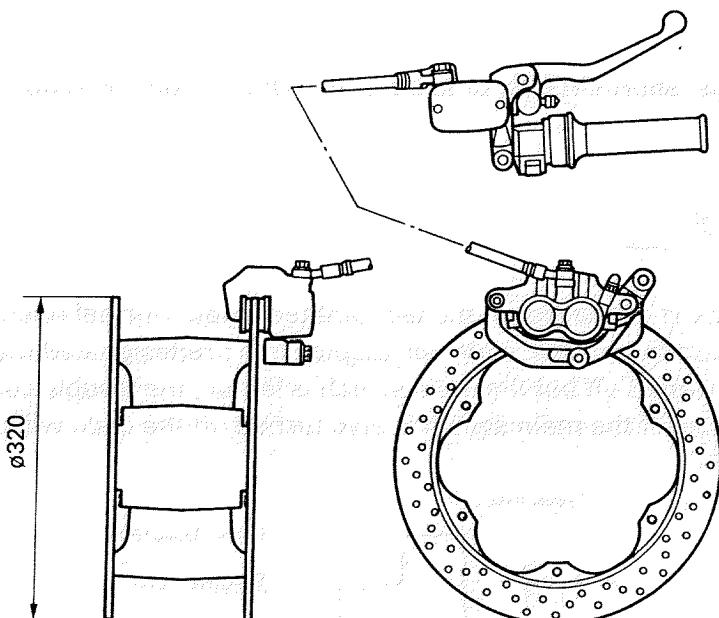


FRONT BRAKE

A 320-mm wide-radius double-disc brake plus a 2-pot-pin slide caliper is used.

The result is powerful damping strength and superior control.

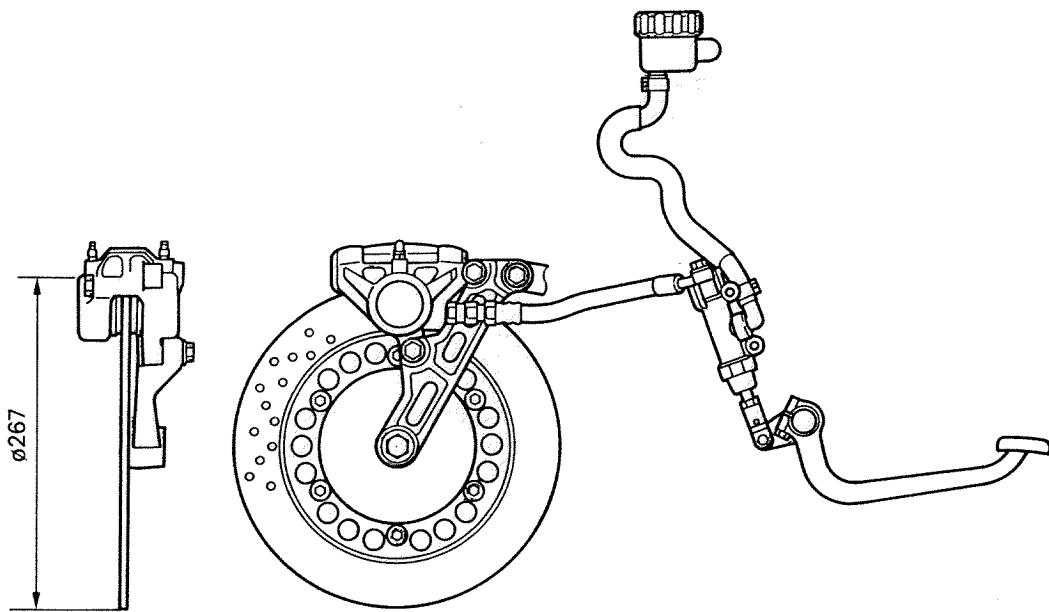
	FJ1200	XJ900S
External radius	ø298 mm	ø320 mm



REAR BRAKE

A 267-mm wide radius single-disc brake and opposed-piston caliper is used, providing superior control.

	FJ1200	XJ900S
External radius	ø282 mm	ø267 mm



ELECTRICAL SELF-DIAGNOSIS

Due to the increasing complexities of igniter control, in order to provide the rider with the best riding conditions and improved serviceability, a self-diagnostic control function is installed on the XJ900S.

< XJ900S Self-Diagnosis >

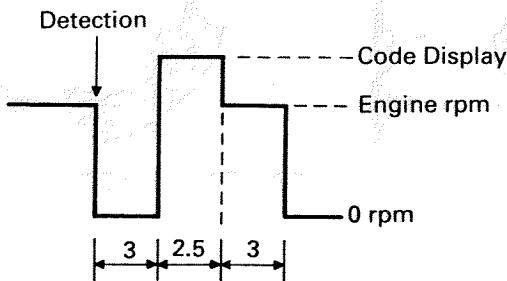
① Detection Points

- To find breakage, short-circuits, or locks of the TPS (Throttle Position Sensor).

② Display Method

Code x 1,000 rpm

- The trouble code is displayed on the tachometer. Under normal operating conditions, engine RPM's and the trouble code will display in a predesignated manner.
- If the engine is turned off but the main switch is left on, the trouble code will remain in memory; however, if the main switch is also turned off the code will be cleared.

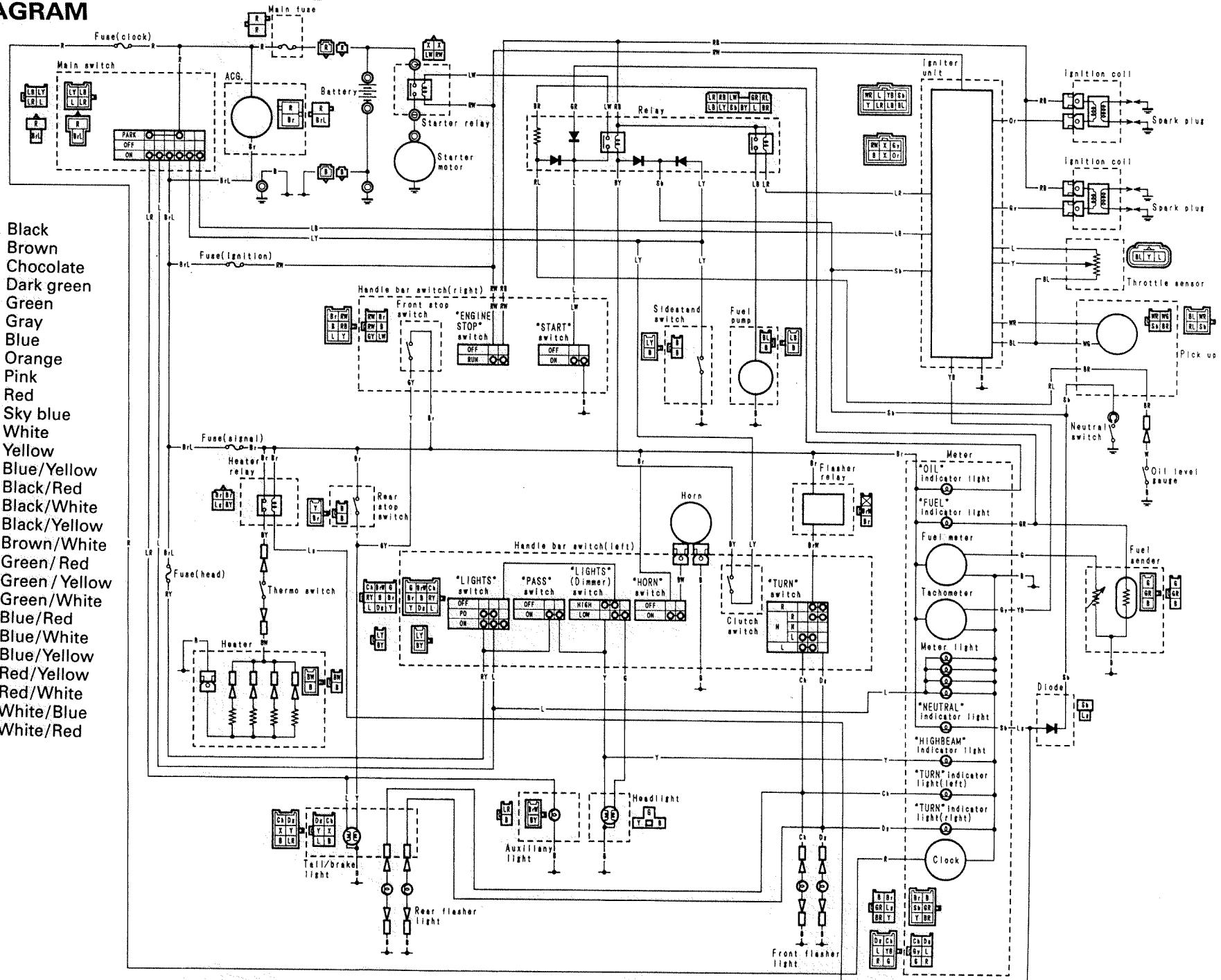


③ Feature to Prevent Engine Damage

- In the case that trouble with the throttle position sensor is detected, the engine will operate by the same ignition timing as that when the throttle is fully opened, to minimize damage to the engine.

WIRING DIAGRAM

B	Black
Br	Brown
Ch	Chocolate
Dg	Dark green
G	Green
Gy	Gray
L	Blue
O	Orange
P	Pink
R	Red
Sb	Sky blue
W	White
Y	Yellow
B/L	Blue/Yellow
B/R	Black/Red
B/W	Black/White
B/Y	Black/Yellow
Br/W	Brown/White
G/R	Green/Red
G/Y	Green/Yellow
G/W	Green/White
L/R	Blue/Red
L/W	Blue/White
L/Y	Blue/Yellow
R/Y	Red/Yellow
R/W	Red/White
W/L	White/Blue
W/R	White/Red



PRODUCT INFORMATION GUIDE

CONFIDENTIAL

(PAGE 1 / 32)

MODEL: XJ900

CODE: USA - / CAL - / CAN - / OCE - 4PS1 EUR - 4KM1, 4KM2, 4PR1

CONCEPT

Versatile 900cc Sport with Modern Technology

ENGINE:

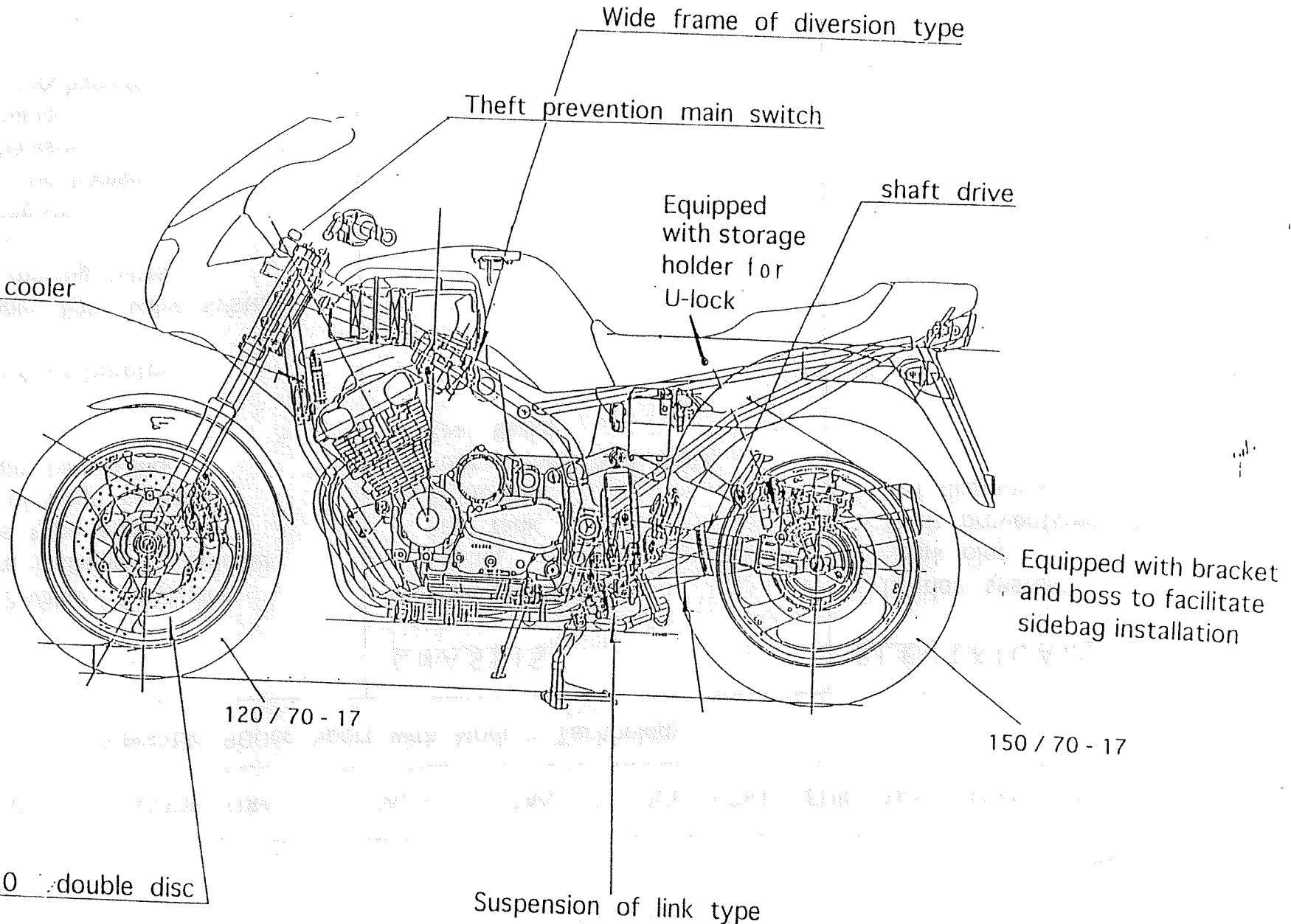
- Air cooled 2-valve / 1-cylinder Forward inclining 4 - cylinder Genesis type engine
- Air cleaner of large capacity
- Blow -by gas circulating mechanism
- A.I.S.
- New BDSR 34 carburetor
- Silent chain
- Newly designed light valve system
- Lightweight moving parts
- Piston cooler
- Clutch mechanism
- Transmission mechanism
- Shifter mechanism
- Starter mechanism
- Shaft middle mechanism
- Crankcase
- Oil cooler
- Exhaust pipe

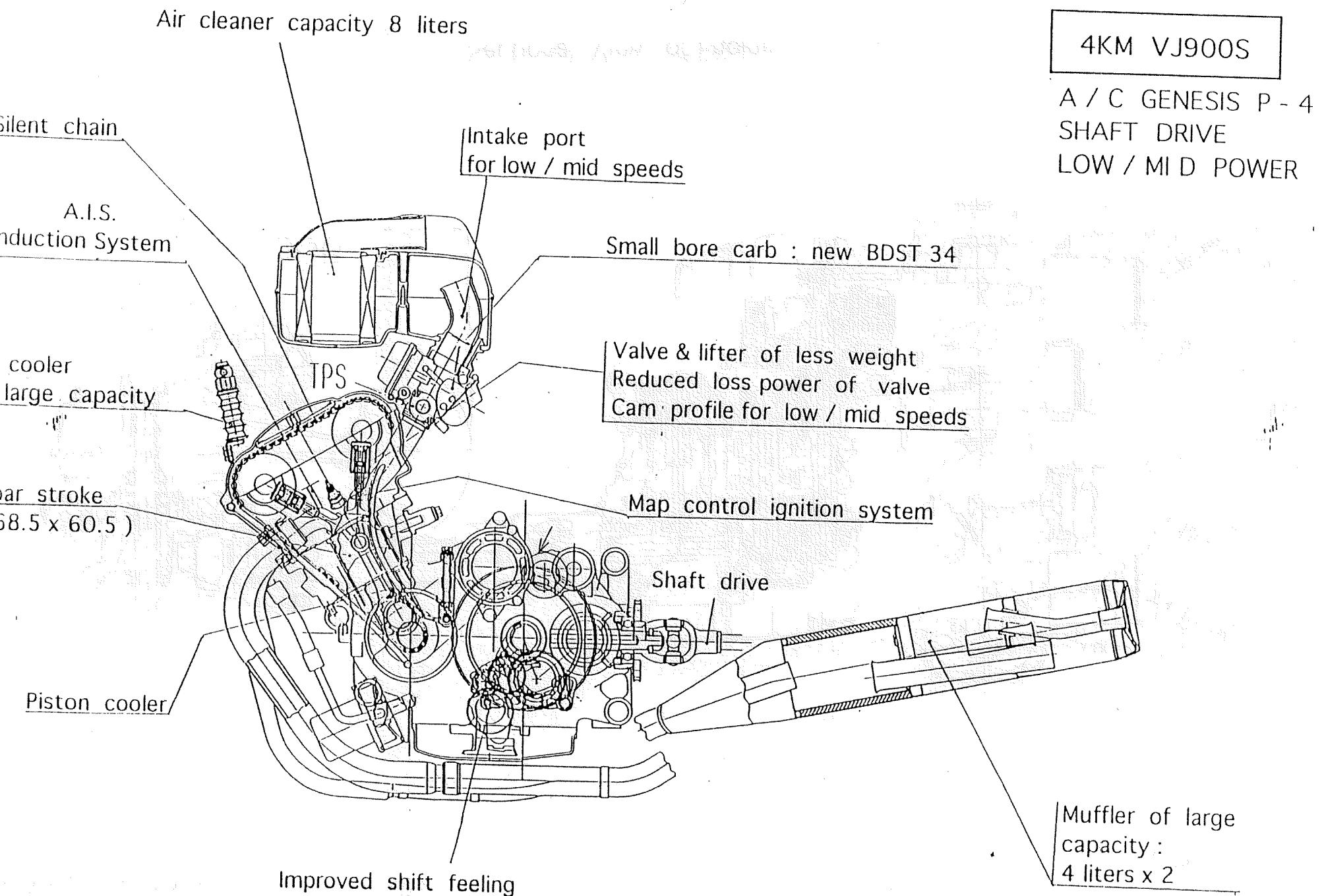
CHASSIS:

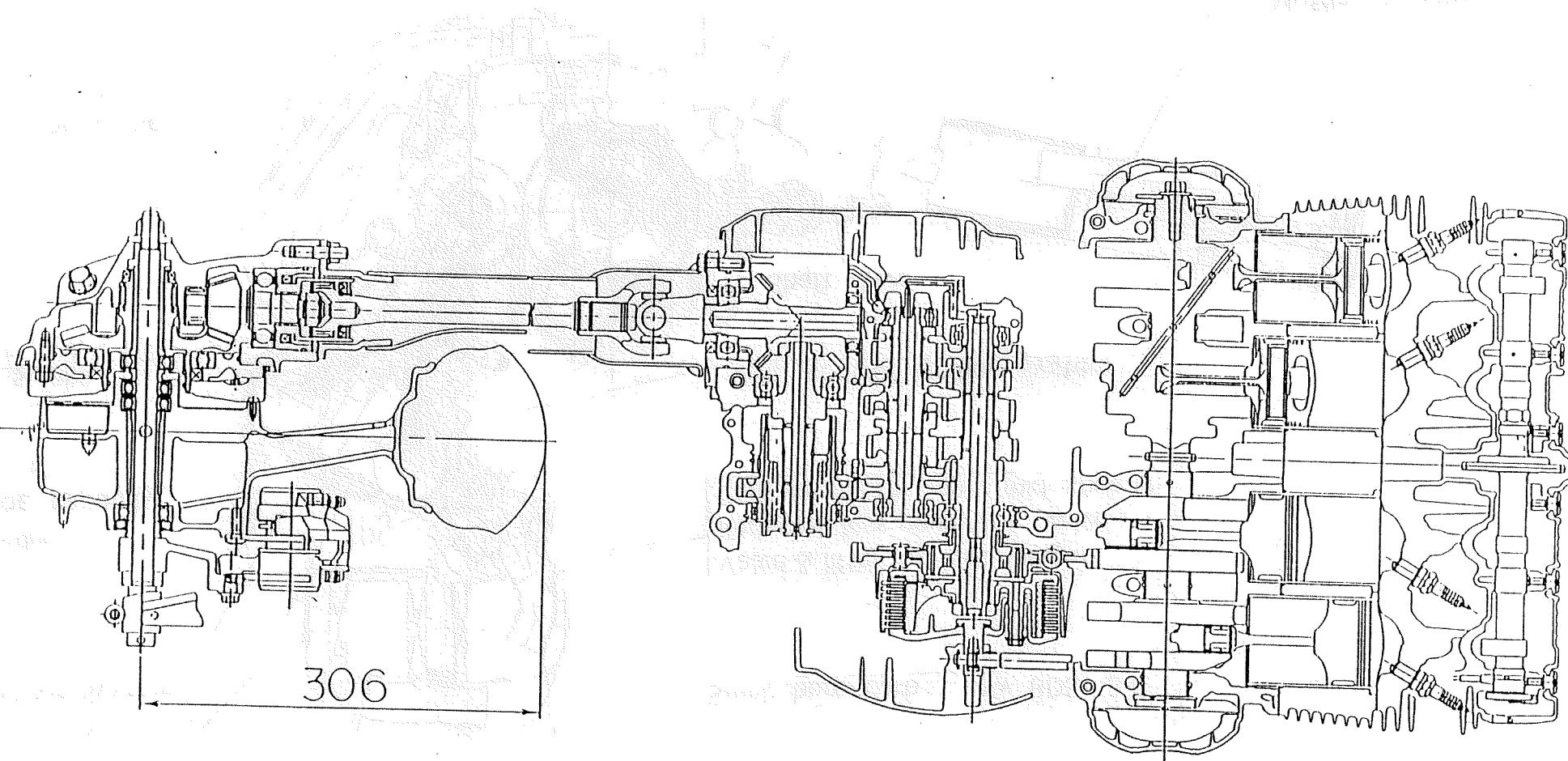
- New cradle frame
- Fairing
- Fuel tank
- Front fork
- Rear cushionFront brake
- Rear Brake

ELECTRICAL:

- Ignition system
- Spark plug
- Theft prevention mechanism
- Self diagnosis





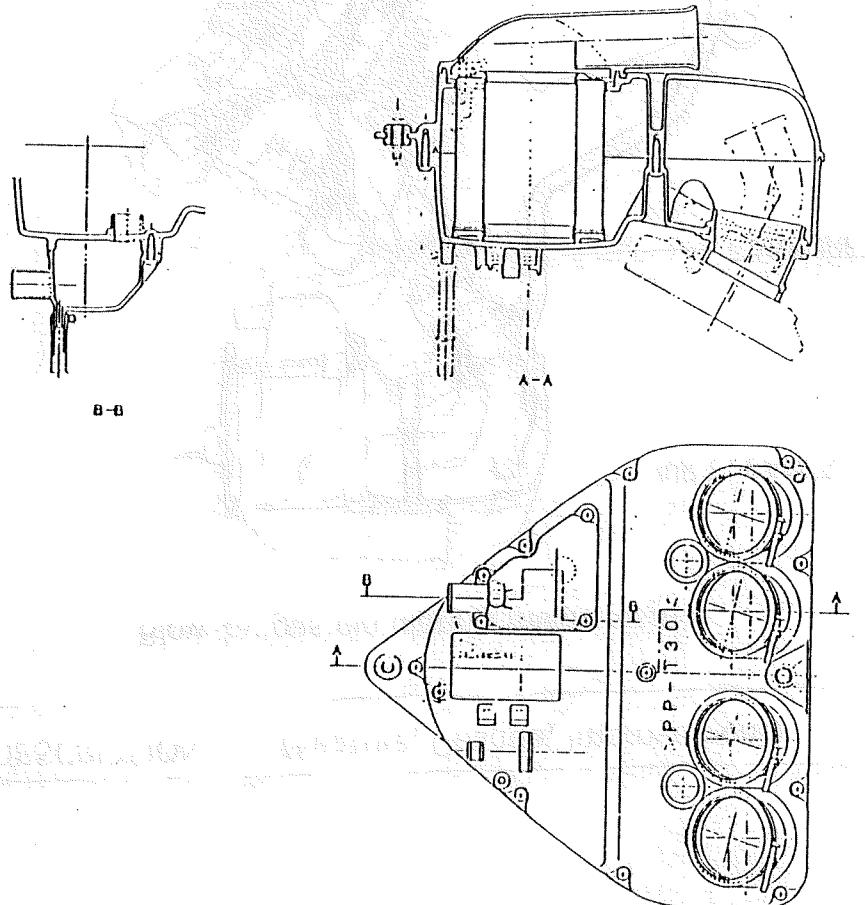


Sectional View of Engine

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

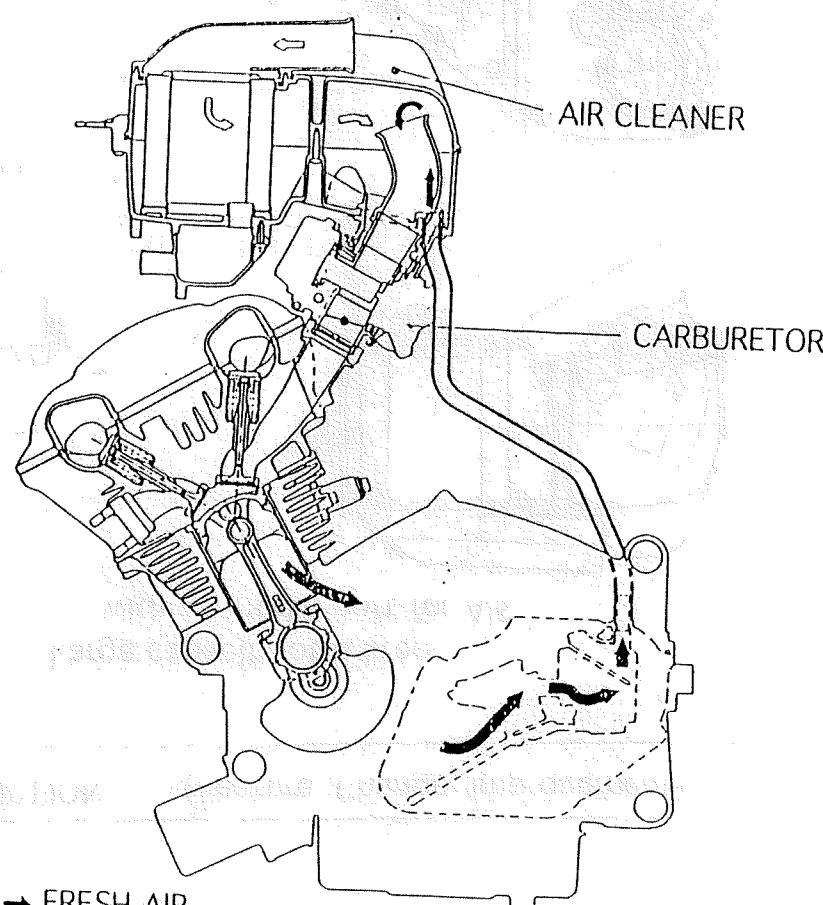
(PAGE 5 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
AIR CLEANER	<p>Large capacity of 8 liters with air intake port for AIS</p> 	For less noise & greater performance

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 6 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
BLOW-BY GAS	<p>Blow-by gas circulating mechanism</p>  <p>→ FRESH AIR</p> <p>→ BLOW-BY GAS</p>	

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 7 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
A.I.S. Air Induction System	<p>Secondary air is taken in through the exhaust port, mainly contributing to the reduction of CO and HC.</p> <p>The diagram illustrates the A.I.S. system. Air enters the Air Cleaner, passes through the Air Cut Valve, and then enters the Joint Carburetor. A Vacuum signal line connects the carburetor to a port on the intake manifold. A Reed Valve is located on the intake manifold. Arrows indicate the flow of air from the exhaust port through a tube into the carburetor assembly.</p>	

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 8 / 32)

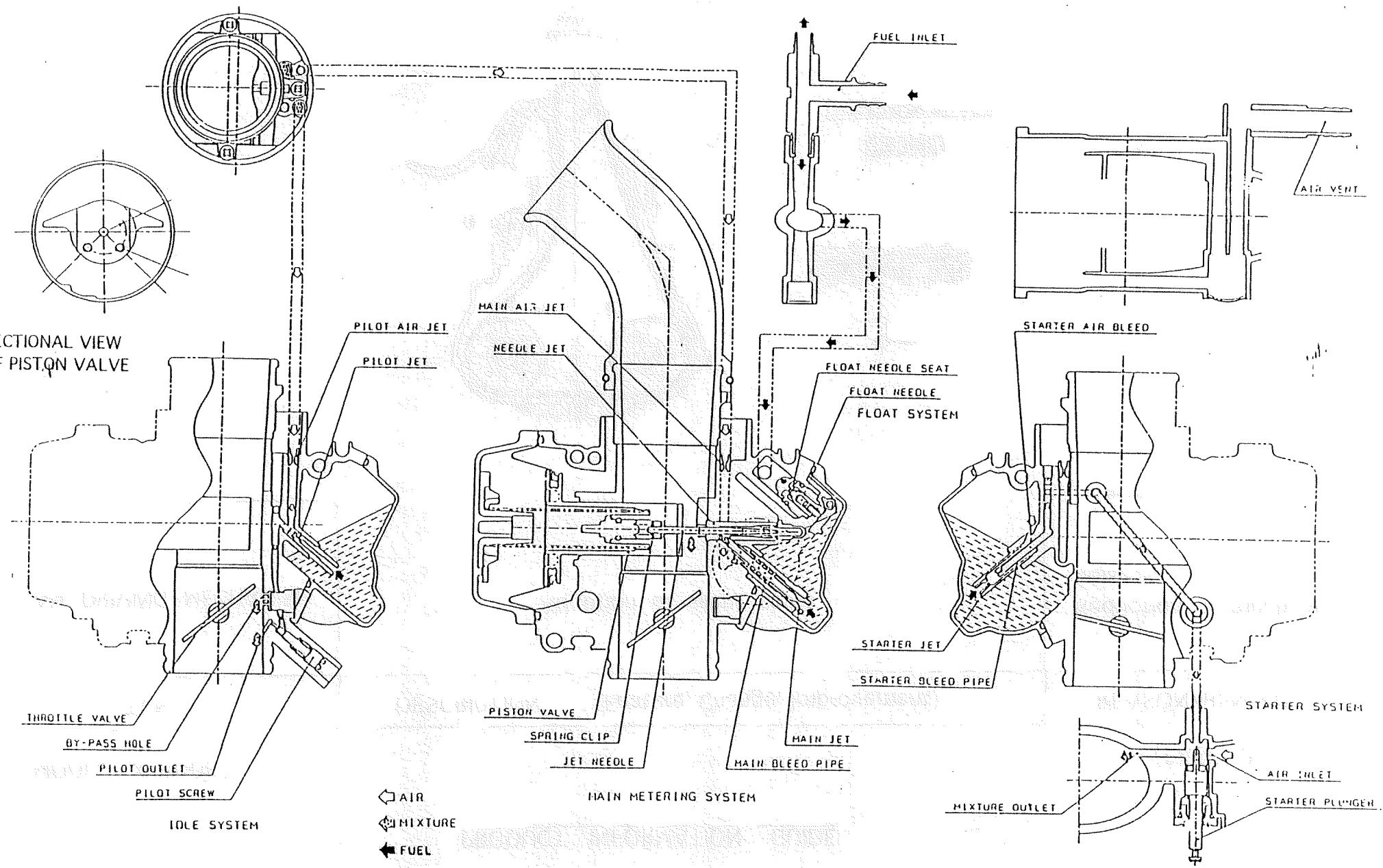
ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
CARBURETOR (APPEARANCE)	New BDSR34 type carburetor (made by MIKUNI)	Setting is intended for low and mid speeds with enhanced transient characteristics. As a result, driveability feeling is improved

PRODUCT INFORMATION GUIDE

(PAGE 9 / 32)

MODEL: XJ900S

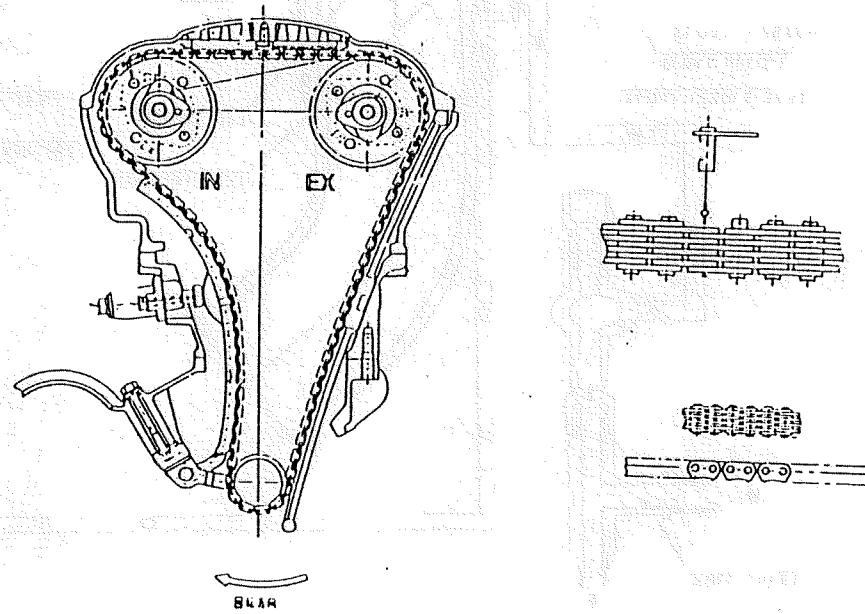
CARBURETOR DIAGRAM



PRODUCT INFORMATION GUIDE

MODEL : XJ900S

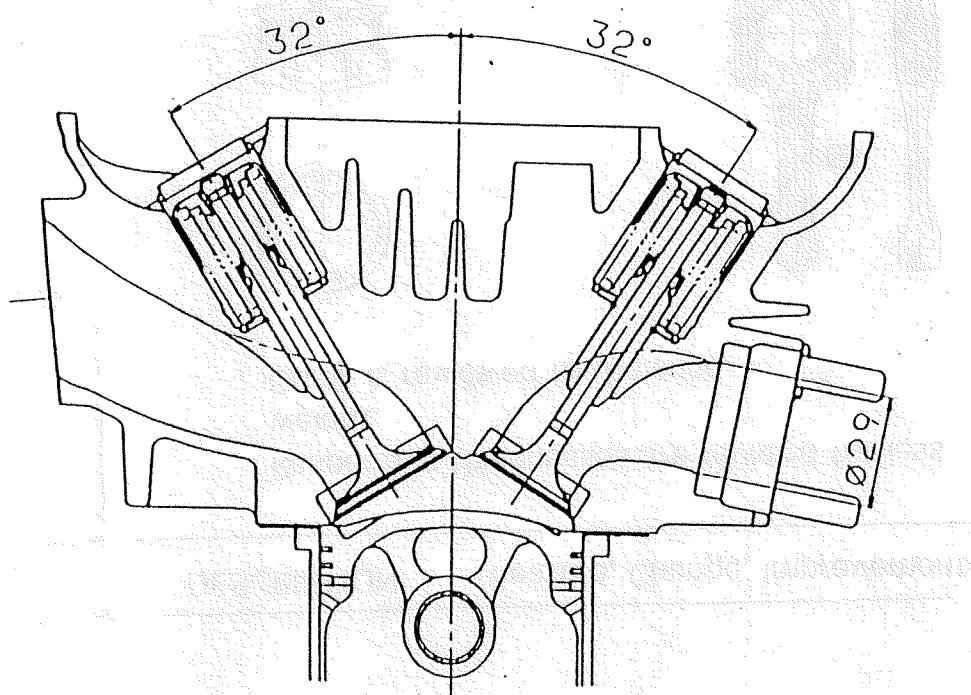
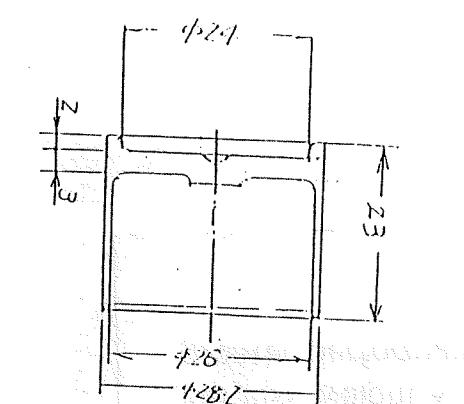
(PAGE 10 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
CAM DRIVING MECHANISM	<p>Adoption of silent chain</p>  <p>BLAA</p>	Reduction in mechanical noise

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 11 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT												
VALVE SYSTEM	<p>Lifter and valve are now one size smaller for less weight, thereby with reduced loss power.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>XJ900S</th> <th>XJ900</th> </tr> </thead> <tbody> <tr> <td>IN valve dia.</td> <td>34</td> <td>36</td> </tr> <tr> <td>EX valve dia</td> <td>28</td> <td>30</td> </tr> <tr> <td>Lifter dia.</td> <td>28</td> <td>33</td> </tr> </tbody> </table>  		XJ900S	XJ900	IN valve dia.	34	36	EX valve dia	28	30	Lifter dia.	28	33	<p>For greater performance & enhanced riding feeling</p>
	XJ900S	XJ900												
IN valve dia.	34	36												
EX valve dia	28	30												
Lifter dia.	28	33												

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 12 / 32)

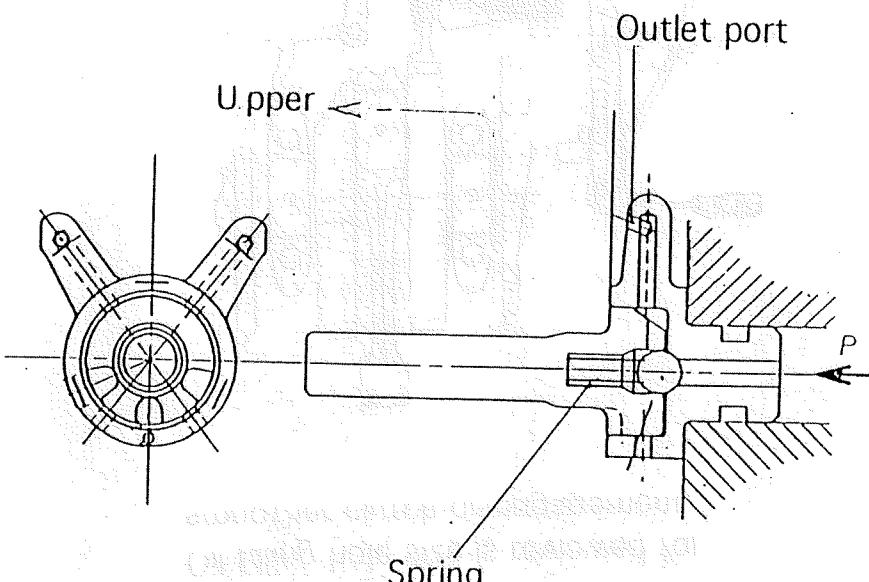
ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
CRANKSHAFT CONNECTING ROD PISTON	<p>Respective thicknesses are reviewed for less weight. Crank is reviewed for balance.</p> 	<p>For less weight & greater performance</p>

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 13 / 32)

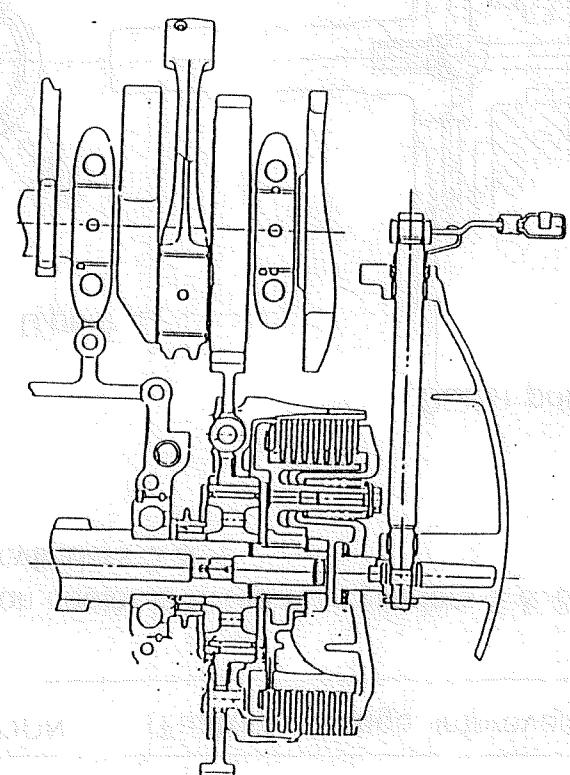
ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
PISTON COOLER	Piston cooler is fitted for cylinders 1 & 2 and cylinders 3 & 4.	To cool the engine at high speeds



PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 14 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
CLUTCH	<p>Oil filling hole size is reviewed for smoother clutch disengagement.</p> 	<p>For smoother clutch operation</p>

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 15 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
TRANSMISSION	Each of the parts are reviewed in shape, accuracy, etc.	For improved shifting feel

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

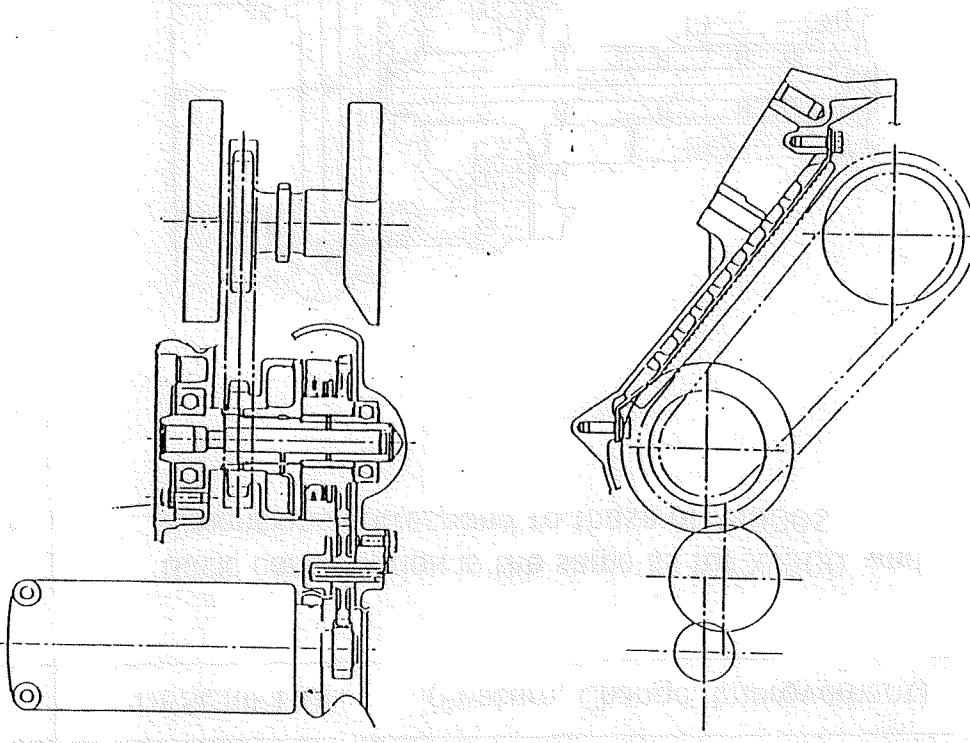
(PAGE 16 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
SHIFTER	Each of the parts is reviewed in shape, accuracy, etc.	For improved shifting feel

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

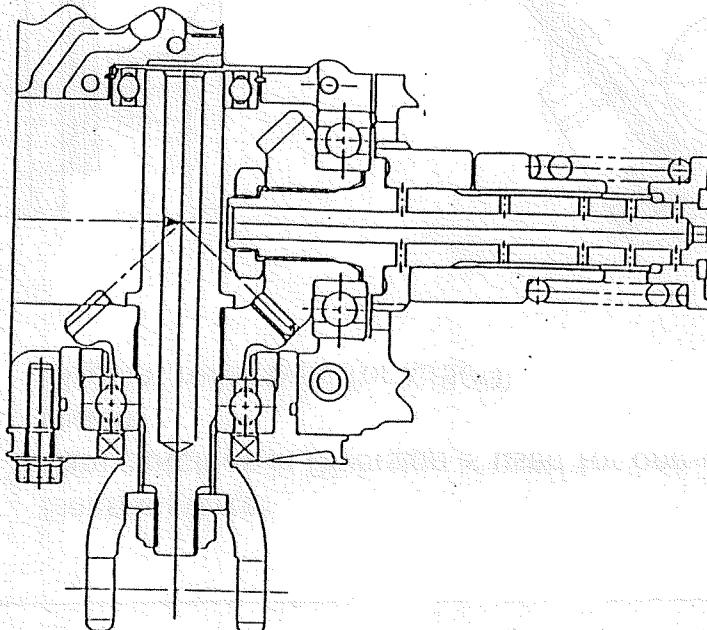
(PAGE 17 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
STARTER	<p>Electric starter</p> <p>Cam clutch as in Diversion is used for one-way clutch.</p> <p>(3-point roller type for XJ900)</p> 	

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

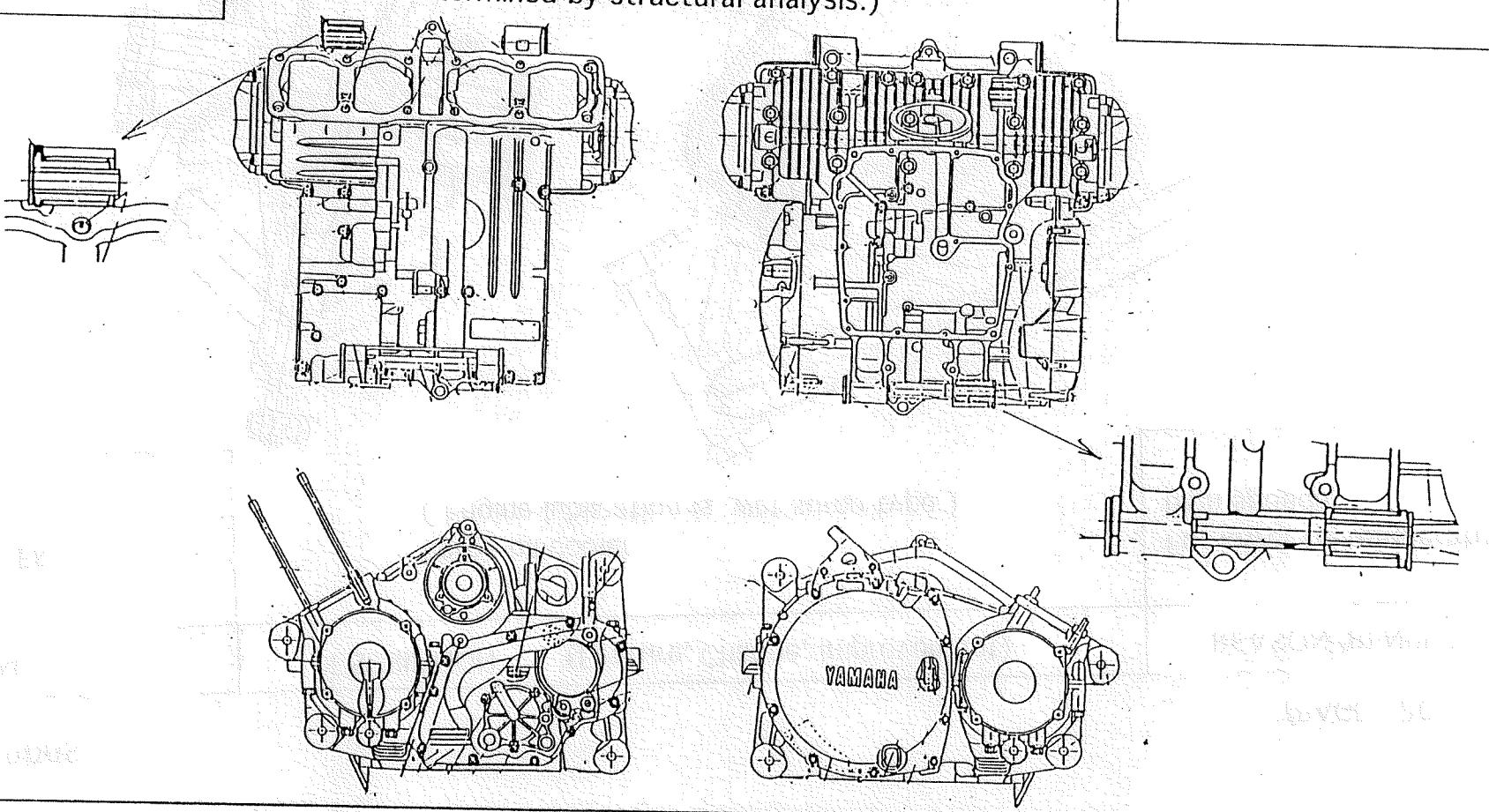
(PAGE 18 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
SHAFT, MIDDLE	<p>Basic construction is the same as for XJ900, and dimensions correspond to those of XJ900S.</p> 	

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

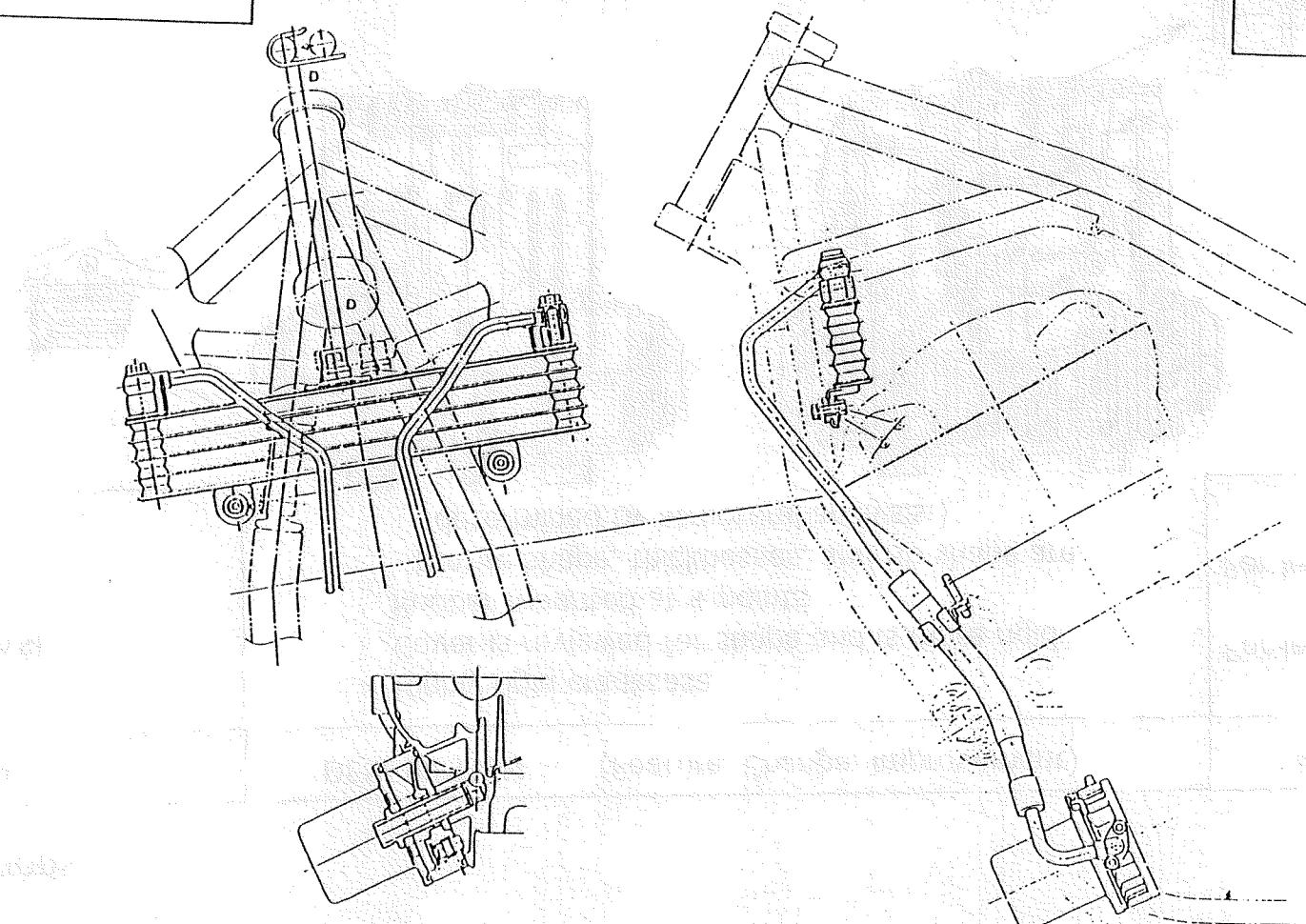
(PAGE 19 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
CRANKCASE	<ul style="list-style-type: none"> • Highly rigid crankcase • Cover is reviewed for shape and is more rigid. • Rubber mounted at 4 points (Entire shape, thicknesses, and rib shape are determined by structural analysis.) 	<p>For less mechanical noise</p> <p>For less Vibration sensation</p>

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

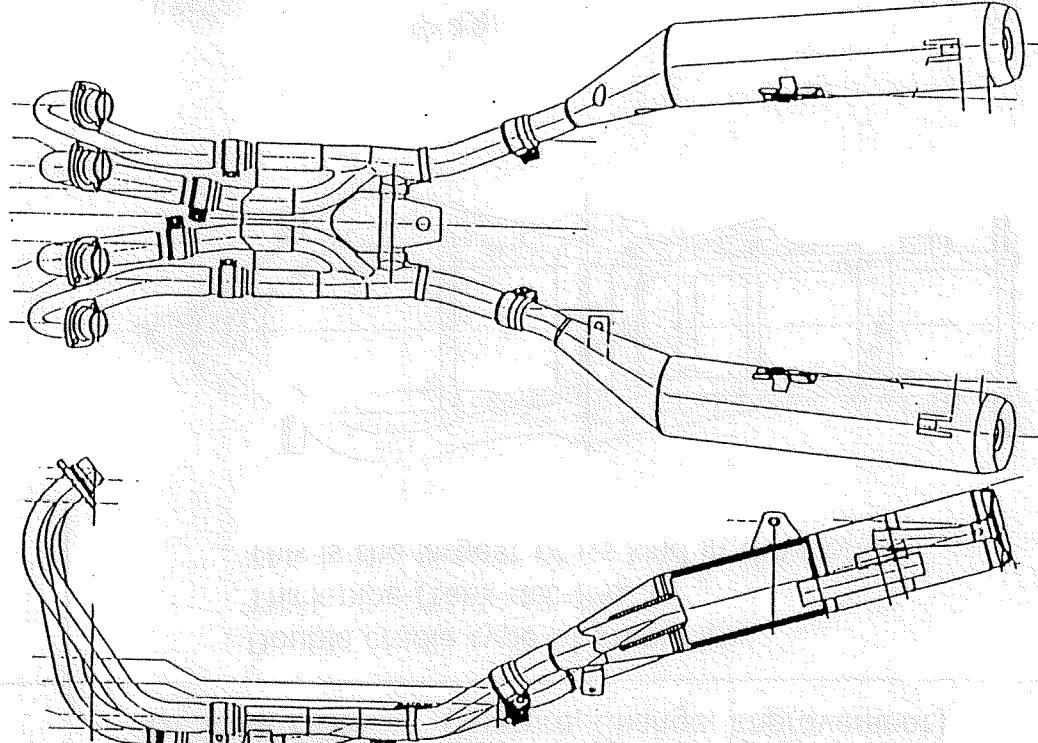
(PAGE 20 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
OIL COOLER	<p>Large oil cooler (Engine lubrication is wet sump type)</p> 	For lower oil temperature at high speeds

F DUCT INFORMATION GUIDE

MODEL : XJ900S

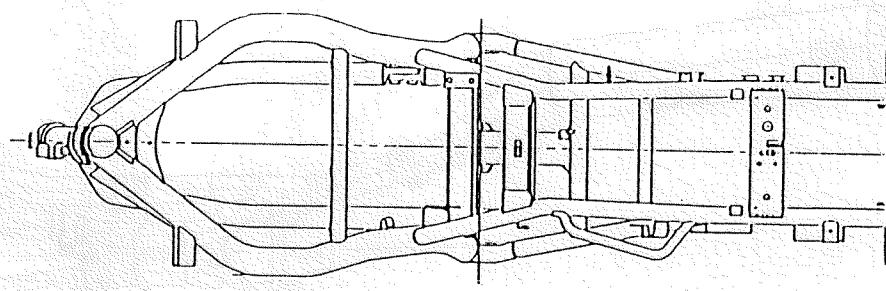
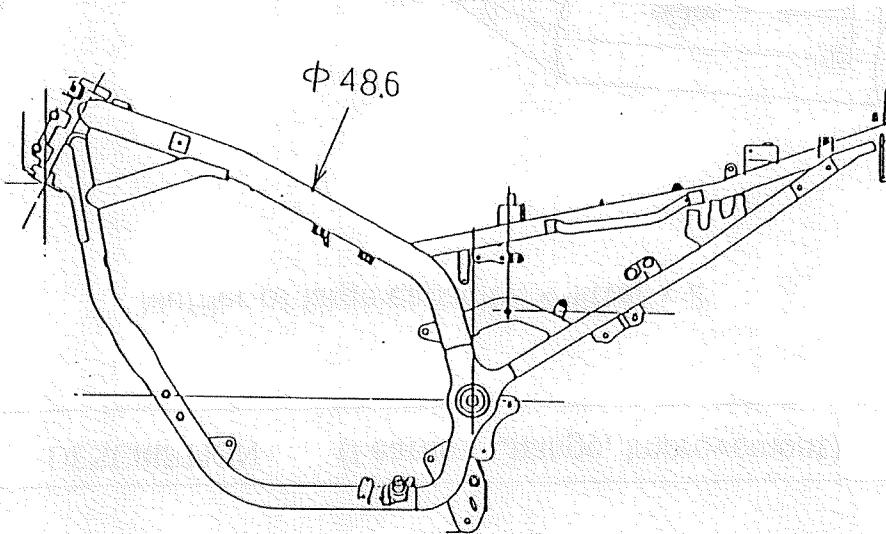
(PAGE 21 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
EXHAUST PIPE	Muffler of large capacity: 4-litter x 2 	Dimensions are intended for low and mid speeds. Also design consideration is for less noise.

PRODUCT INFORMATION GUIDE

MODEL XJ900S

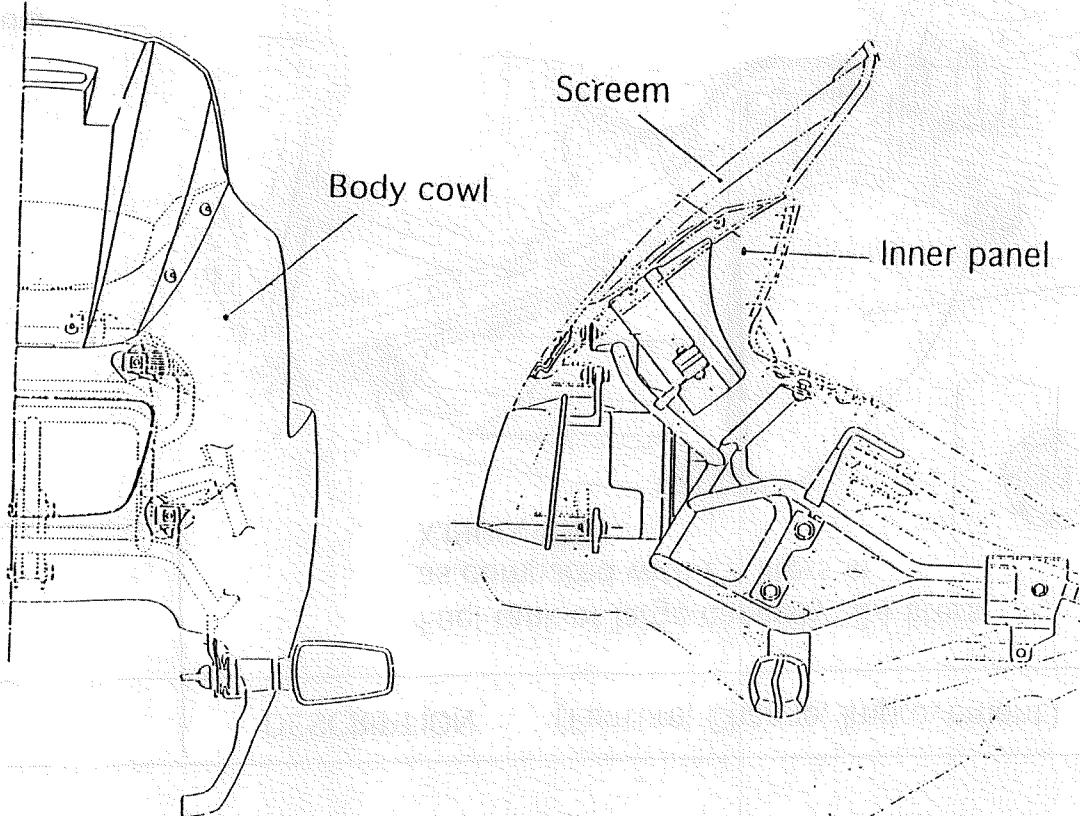
(PAGE 22 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
FRAME	<p>Double cradle type of steel pipe Thick pipe (tank rail: $\phi 48.6$) This is the largest of its kind in the world.</p>  	<p>Highly rigid As the engine is mounted completely by full-float system, design is focused on dependence on frame rigidity only.</p>

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

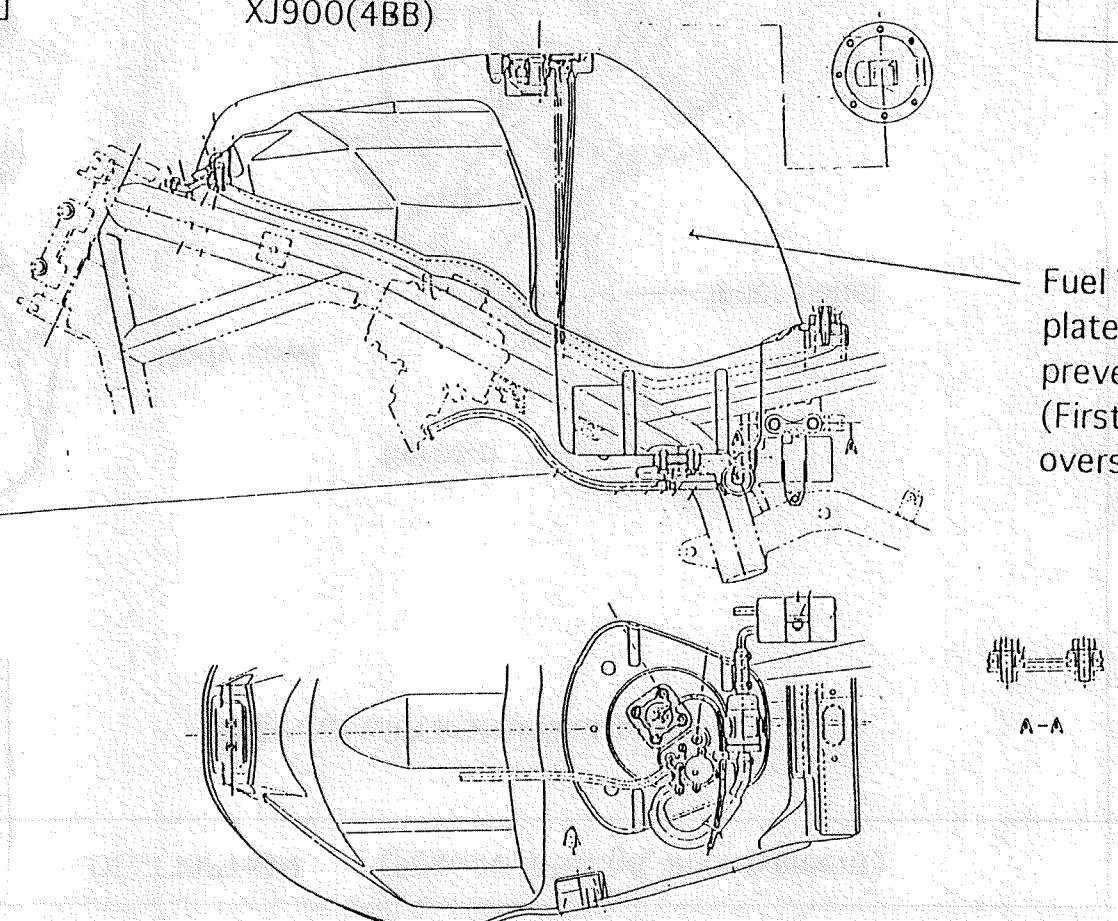
(PAGE 23 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
FAIRING	<p>Half-cowl with instrument panel</p>  <p>The diagram illustrates the internal structure of the half-cowl fairing. It shows the 'Body cowl' on the left, which is a vertical panel. To its right is the 'Screen', which is a curved panel that fits over the handlebars. Behind the screen is the 'Inner panel', which provides a protective layer between the rider and the engine. Various mechanical components like bolts and brackets are visible, showing how these panels are mounted onto the frame.</p>	<p>Half-cowl aimed at wind protection</p> <p>Design is aimed at optimum compromise between two opposites with the least possible turbulence and greatest possible wind protection.</p>

PRODUCT INFORMATION GUIDE

MODEL XJ900S

(PAGE 24 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
FUEL TANK	<p>Fuel tank of large capacity: 24 liters as compared with 22 liters in XJ900(4BB)</p>  <p>Electromagnetic fuel pump is adopted because fuel pump was required due to Genisis type layout in relation to fuel tank and engine.</p>	<p>Longer cruising distance</p> <p>Fuel Tank of steel plate is plated on the inside for rust prevention (First of its kind for overseas supply)</p>

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

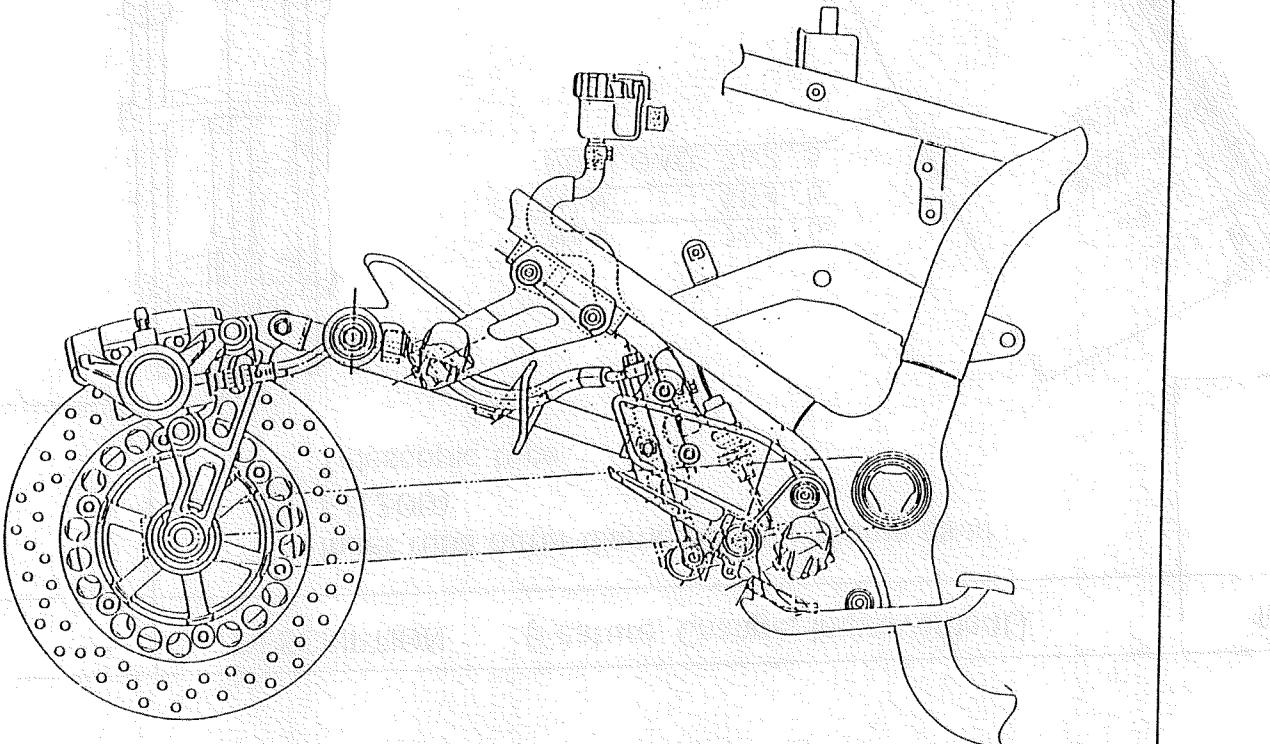
(PAGE 25 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
FRONT FORK	<p>Inner tube outer diameter: $\phi 41$ (same as in FJ1200) Telescopic type</p> <p>MAX 794.5 MIN 654.5 NO LOAD 752.5</p>	

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

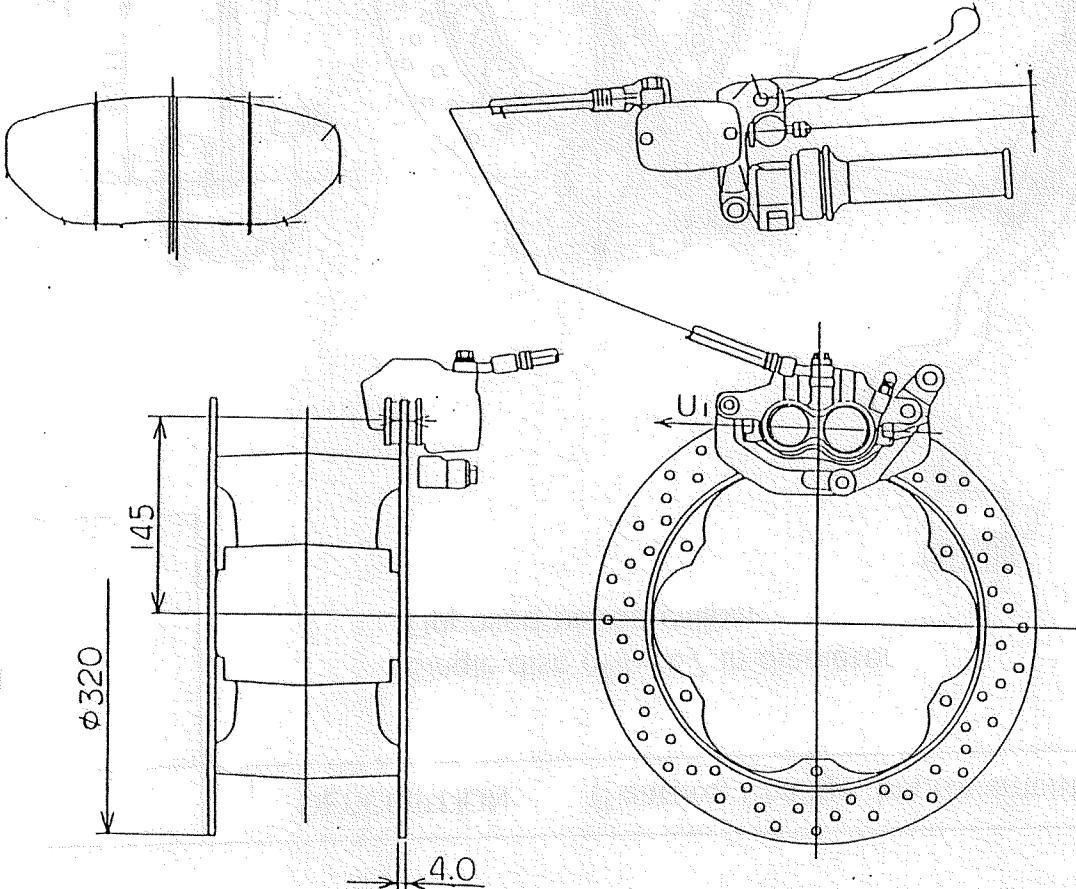
(PAGE 26 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT				
REAR CUSHION	<p>Dumper of $\phi 46$ in diameter (same as for FJ1200) Monocross link type suspension Shaft dirve + Link suspension Wheel travel</p> <table> <tr> <td>XJ900 (4BB)</td> <td>100mm</td> </tr> <tr> <td>XJ900S (4KM)</td> <td>110mm</td> </tr> </table> 	XJ900 (4BB)	100mm	XJ900S (4KM)	110mm	<p>Yamaha's first shaft drive + link suspension mechanism in the field of sports models</p>
XJ900 (4BB)	100mm					
XJ900S (4KM)	110mm					

PRODUCT INFORMATION GUIDE

MODEL : XK900S

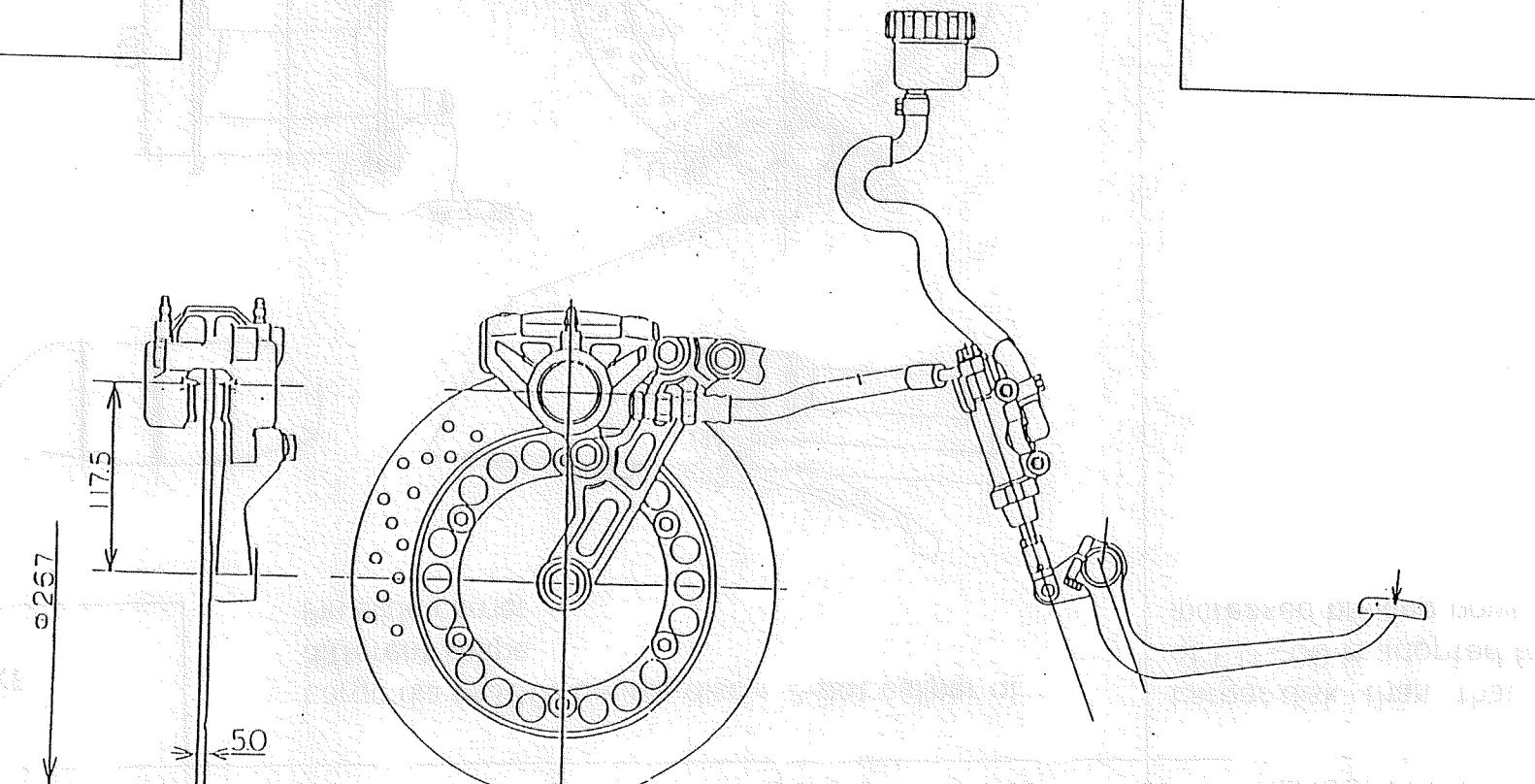
(PAGE 27 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
FRONT BRAKE	<p>Large dia ($\phi 320$) double disc + 2-pot caliper of different shape Pin slide carrier</p>  <p>Technical drawing illustrating the front brake assembly. It shows a side view of the wheel hub with a disc thickness of 4.0 and a total diameter of $\phi 320$. A top-down view shows the two-pot caliper mounted on a pin slide carrier. A dimension of 145 is indicated between the caliper body and the disc.</p>	<p>Larger disk than that ($\phi 298$) of FJ1200 is adopted for increased braking power</p>

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 28 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
REAR BRAKE	<p>Single disc of $\phi 267$ in diameter Opposed piston caliper</p> 	

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 29 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
IGNITION SYSTEM	<p>Map control system (full-transistor) with TPS (Throttle Position Sensor)</p> <p>Optimum ignition timing advancement for throttle opening and engine revolutions can be achieved</p>	For improved driveability

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 30 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/ BENEFIT
SPARK PLUG	XJ900 B type(M14) → XJ900S D type (M12)	For improvement of combustion chamber Combustion chamber is made compact to meet small dia valves for higher compression ratio. XJ900 → XJ900S 9.6 10 As a result, engine feeling is enhanced at low and mid speeds.

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 31 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
THEFT PREVENTION SYSTEM	Mechanical and electrical types combined	For theft prevention

PRODUCT INFORMATION GUIDE

MODEL : XJ900S

(PAGE 32 / 32)

ITEM	DESCRIPTION (Feature, Change, Improvement)	REASON/BENEFIT
SELF DIAGNOSIS	To find breakabe, shortcircuit, and lock of TPS (Throttle Positioning Sensor)	