

MD: TS: 03/2021

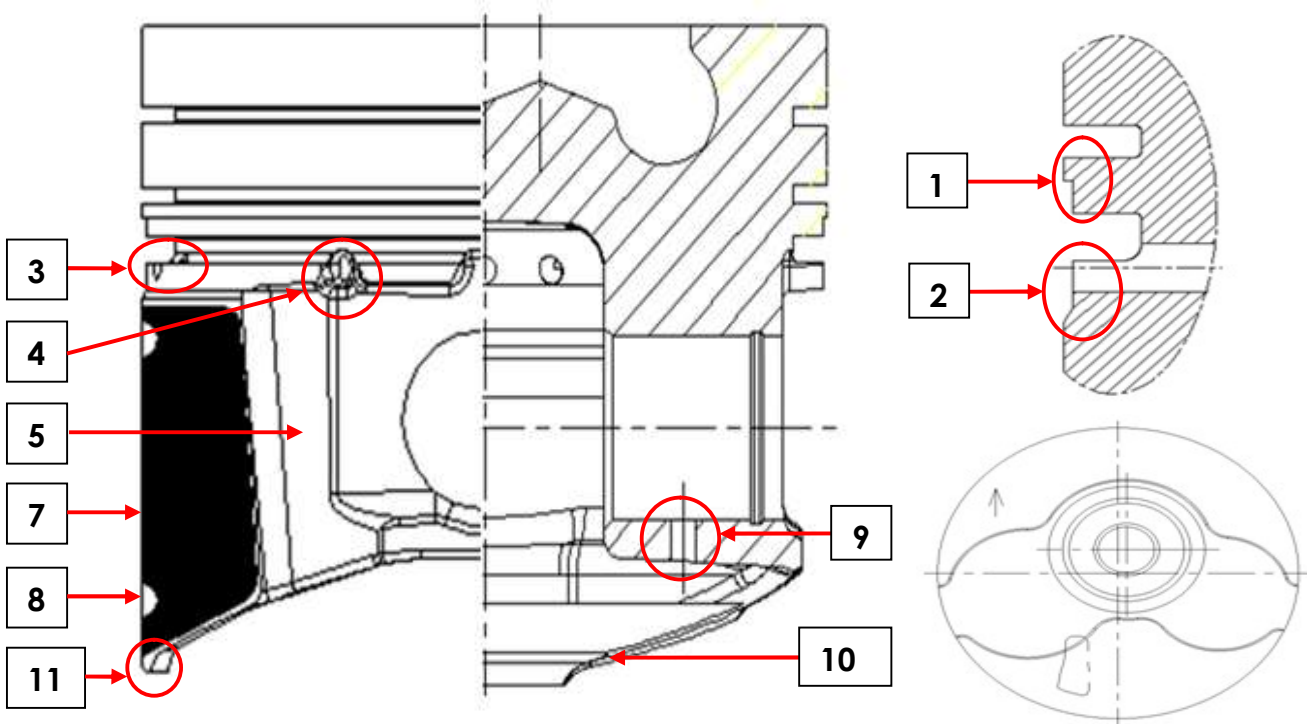
AUG'2020

An update from SHRIRAM PISTONS & RINGS LTD.

USHA[®] is pleased to introduce Piaggio Ape BS-IV PA kit in our three wheeler product range.

This PA kit has following special features:

PISTON:-



Unique features of USHA PIAGGIO APE BS-IV piston are as follows:-

Sl. No	SPECIAL FEATURE	BENEFITS TO CUSTOMER
1)	STEP CUT IN SECOND RING LAND:- USHA Ape BS-IV piston is provided with a step cut in second ring land to provide perfect seating of middle ring at the bottom surface of groove.	<ul style="list-style-type: none"> Helps in reducing blow-by & oil consumption
2)	'J' CUT:- This piston has been provided with a unique 'J' cut below the oil ring groove area.	<ul style="list-style-type: none"> 'J' cut provides all time lubrication to piston skirt No piston seizure in extreme limits of normal working conditions

3)	OIL HOLES HALF IN GROOVE & HALF IN SKIRT:- USHA Ape BS-IV piston has been provided with oil holes which are half in ring groove & half in skirt.	<ul style="list-style-type: none"> • Faster drainage of excess oil • Reduces oil consumption
4)	QUICK OIL RETURN SLOTS (QORS):- Two nos. of Quick Oil Return Slots (QORS) are provided on each side of the piston above the pin bore, half in groove & half in window.	<ul style="list-style-type: none"> • Quick drainage of oil & hence lower oil consumption
5)	AS CAST CONVERGENT TYPE PIN BORE RECESS:- This not only provides more space for oil drainage but the unique convergent type design also provides more bearing area to the piston skirt. More bearing area of skirt helps in well guided movement of piston rings.	<ul style="list-style-type: none"> • Faster drainage of oil due to more space helps in reducing oil consumption • Longer life of piston (Seizure on minor axis is avoided)
6)	PISTON SURFACE COMPLETELY BONDERISED:-	<ul style="list-style-type: none"> • Bonderising helps in preventing oxidation of piston • Also provides porous surface for oil retention thereby reducing piston wear
7)	PISTON SKIRT COATED WITH NEW NANO-FRIKS COATING:-	<ul style="list-style-type: none"> • Nano-friKS permanent coating provides better wear resistance & helps in initial lubrication to avoid piston scuffing, seizure etc
8)	MEASURING POINTS ON PISTON SKIRT:-	<ul style="list-style-type: none"> • Provides easy piston diameter verification
9)	OIL HOLES IN PIN BOSS:- Oil holes are provided for better lubrication of piston pin.	<ul style="list-style-type: none"> • Lesser pin-pin bore wear • Longer life of piston
10)	SLIPPER DESIGN:- Slipper design in skirt helps in reducing piston weight & provides better guidance to piston movement.	<ul style="list-style-type: none"> • Improves fuel efficiency • Better guidance to rings • Low noise during engine working
11)	SCRAPPING CHAMFER:- A smooth chamfer at the bottom end of the piston provides better hydrodynamic oil film.	<ul style="list-style-type: none"> • Helps in regulating oil supply, reduces skirt wear & hence longer life

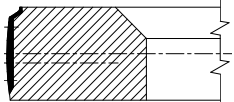
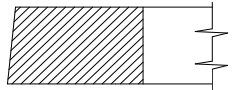
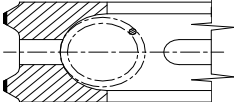
TECHNICAL DATA- PIAGGIO APE BS-IV PISTON

USHA CODE→ S61		
Nominal Bore Diameter	mm	86.00
Piston Diameter	STD Size mm	85.95
Recommended Piston-Liner Clearance	mm	00.05
Compression Height	mm	44.00
Total Height	mm	72.00
Piston Pin- Pin Bore Clearance	mm	+0.003 to +0.014 (Clearance fit)

PISTON RINGS:-

USHA PIAGGIO APE BS-IV piston is designed to match with our existing APE BS-III 'SSTR' ring set for low oil & fuel consumption. The technical details of 'SSTR' ring set are as under:-

TECHNICAL DATA- PIAGGIO APE BS-III – 'SSTR' RINGS

Ring	Ring Configuration	Axial Thickness (mm)	Closed Gap		Surface Treatment	Cross Section
			(mm)	(Thou)		
Top	Inside Bevel Special Steel	2.00	0.20-0.40	8-16	Chrome Inlaid	
Second	Taper Compression	2.00	0.50-0.70	20-28	Parkerised	
Oil Ring	High Tension Profile Ground	3.00	0.25-0.45	10-18	Lands Chrome Plated	

CYLINDER BLOCK:-

Air cooled cylinder blocks in USHA PIAGGIO APE BS-IV PA kits are manufactured using cast iron material by automatic Shell moulding process having good castability, machinability & excellent surface finish. Cylinder bore surface of these blocks is Plateau honed for better performance, friction free running, minimum oil consumption & blow-by etc.



Technical Product News is an exclusive update of product & information from
Shriram Pistons & Rings Ltd., 3rd Floor, Himalaya House, 23, Kasturba Gandhi Marg, New Delhi-110001
Tel: 011-46451100, 23315941, Email: tss@shrirampistons.com, Website: www.shrirampistons.com