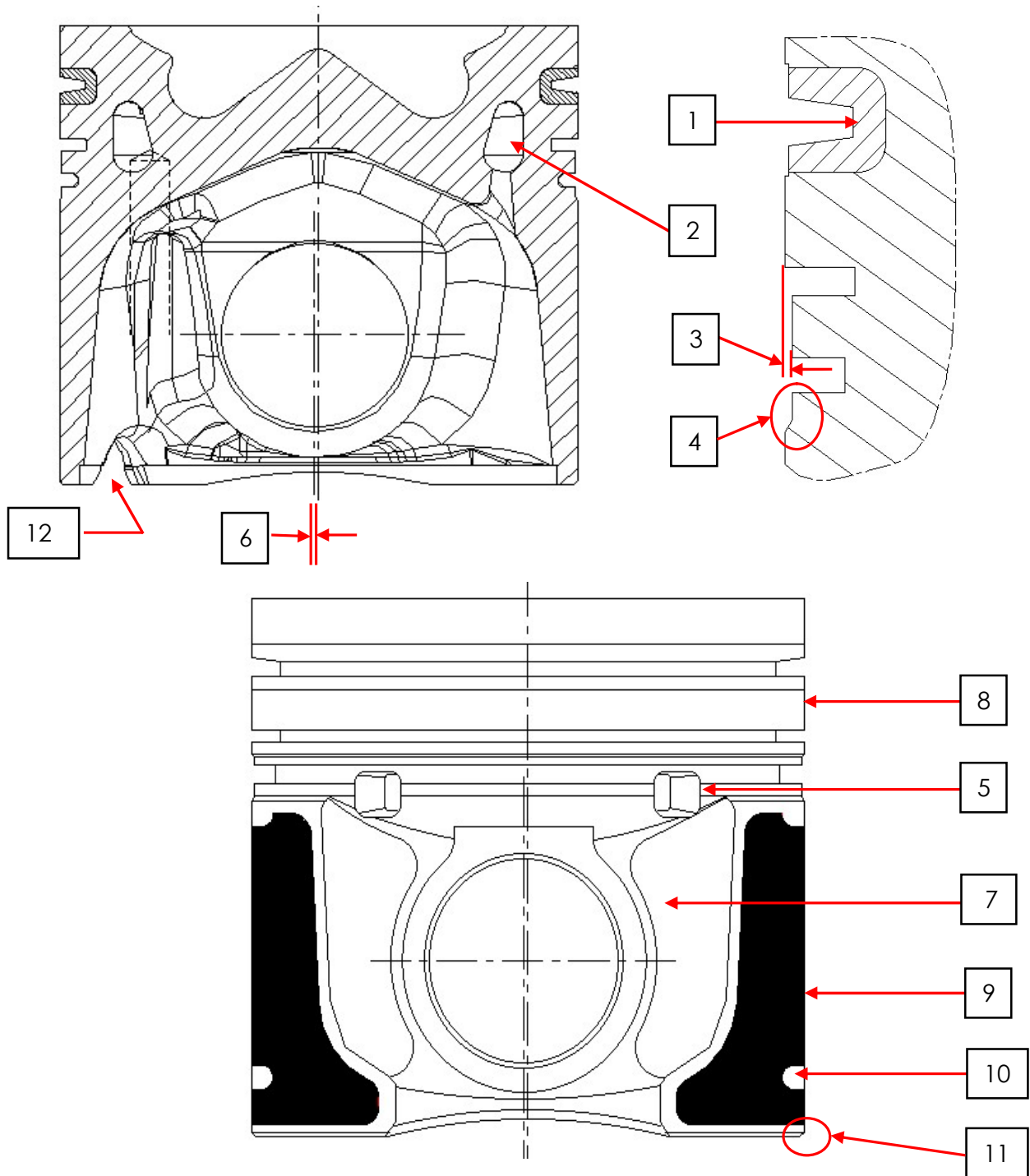


TECHNICAL BULLETIN – EICHER 494/694 BS-IV 4V PISTON SET & RING SET

USHA is pleased to introduce Eicher 494/694 BS-IV 4V piston set & ring set in our LCV/HCV product range.

USHA Eicher 494/694 BS-IV 4V piston set has following special features:

PISTON:-



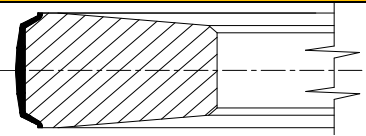
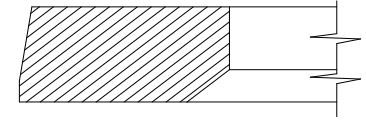
S. No.	SPECIAL FEATURE	BENEFIT TO CUSTOMER
1)	HIGH NICKEL WEAR RESISTANT RING CARRIER (RCP): Top groove of this piston is made of high nickel wear resistant ring carrier insert which is manufactured using latest centrifugal casting technology.	<ul style="list-style-type: none"> Longer life of piston due to negligible wear of top groove
2)	OIL COOLING GALLERY (OCG): A through oil cooling gallery is made around the periphery on under crown area of the piston beneath ring zone with the help of salt core during casting, through which oil flows continuously during its working cycle.	<ul style="list-style-type: none"> Facilitates heat dissipation Helps in rapid cooling of the under crown & ring groove areas, thereby enhancing piston & engine life
3)	CUT BACK IN SECOND RING LAND: Land is slightly undersize to provide more space for the oil scrapped by the intermediate compression ring.	<ul style="list-style-type: none"> Helps in controlling blow-by & reducing oil consumption
4)	"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
5)	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 and hence lower oil consumption
6)	PISTON-PIN BORE OFFSET: The piston is provided with a pin bore offset to avoid piston slap. Piston pin bore offset means that the centre line of piston is slightly offset from the centre line of pin bore. Due to this offset, piston tilts at TDC & BDC smoothly & prevents slapping with liner.	<ul style="list-style-type: none"> Reduces engine noise
7)	AS CAST HYDRODYNAMIC WINDOW: New hydrodynamic 'As Cast' window designed by our collaborator, not only provides more space for oil drainage, but also provides more skirt area for piston ring guidance.	<ul style="list-style-type: none"> Faster drainage of oil due to more space helps in reducing oil consumption Better guidance to rings
8)	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 wear
9)	SKIRT COATED WITH NEW "D-10" COATING	<ul style="list-style-type: none"> D-10 permanent coating provides better wear resistance & helps in initial lubrication to avoid piston scuffing
10)	MEASURING POINTS ON PISTON SKIRT: Two points on both sides of piston skirt.	<ul style="list-style-type: none"> Provided for easy diameter verification

11)	BOTTOM CHAMFER: A smooth chamfer is provided at the bottom end of the piston which provides better hydrodynamic oil film.	<ul style="list-style-type: none"> Helps in regulating oil supply, reduces skirt wear & hence longer life
12)	SLOT FOR OIL COOLING JET: Provides room for oil cooling jet.	<ul style="list-style-type: none"> Helps in directing oil flow towards oil cooling gallery Additional reduction in piston weight

TECHNICAL DATA- USHA EICHER 494/694 BS-IV 4V PISTON SET		
		USHA CODE→ L30/ H30
Nominal Bore Diameter	mm	100.00
Piston Diameter	STD Size mm	99.87
Recommended Piston-Liner Clearance	mm	00.13
Compression Height	mm	60.65
Total Height	mm	90.15
Pin Bore Diameter	mm	36.00
Piston Pin-Pin Bore Clearance	mm	+0.009 to +0.015 (Clearance Fit)

PISTON RINGS:-

USHA Eicher 494/694 BS-IV 4V pistons are supplied with specially designed 'CPCDVM' ring set having **CPC** top & **DVM** oil ring combination for low oil consumption & blow-by. The technical details are as under:

Ring	Ring Configuration	Axial Ht. (mm)	Closed Gap		Surface treatment	Cross Section
			(mm)	(thou)		
Top	Keystone Spl. Steel CPC	3.00 (nom)	0.25-0.40	10-16	Composite Plating of Chrome	
Second	Reverse Torsion	2.50	0.40-0.60	16-24	Parkerising	
Oil	DVM	2.50	0.20-0.45	08-18	Gas Nitriding	