# PERFORMANCE RINGS







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# STAINLESS STEEL NITRIDE (SN)

The SN series is the ultimate ring package for the highest performing applications and is a must for big power adders. Stainless steel top rings with gas nitriding delivers excellent wear and scuff resistance and ability to withstand elevated combustion temperatures. Sets contain either ductile napier or conventional reverse twist style second rings. 3pc Flex Vent oil assembly with chrome rails will be found in this top-of-the-line series.

# STEEL MOLY (SM)

The SM series is an excellent ring package containing alloyed steel top rings with inlaid plasma moly coating. Steel top rings offer increased durability over ductile or cast iron due to its higher strength and heat resistance. Steel rings allow for thinner cross sections which reduces mass and allows for better ring to cylinder bore conformability increasing ring seal and horsepower output. Plasma moly coating provides great scuff and thermal resistance to meet the demands of performance engines. The second ring consist of either ductile napier or conventional reverse twist style. 3pc Flex Vent oil assembly with chrome rails will be found in this premium series.

# STEEL CHROME (SC)

The SC series is an excellent ring package containing alloyed steel top rings with chromium plating on the running face. These steel top rings provided all the same benefits previously mentioned with addition of chrome coating which is very wear resistance due to it's high hardness. Sets will contain second rings with either conventional scraper or reverse twist style. 3pc Flex Vent oil assembly with chrome rails will be found in this series.



# **DUCTILE MOLY (2M)**

The 2M series continues to be the best-selling ring series in the offering and for good reason. The top rings are made with high tensile ductile iron and contain topside ID bevel for increased side sealing along with inlaid plasma moly coating. These sets come with either ductile napier or conventional reverse twist style second rings. 3pc Flex Vent oil assembly with chrome rails will come in these best-selling sets.

# **SNH**

The SNH series is designed for aftermarket performance pistons in the sport compact performance market utilizing 1.0 x 1.2 x 2.8 ring groove configurations. This series provides the same features and benefits as the SN series with addition of Nitride Flex Vent technology for addition wear resistance in high power sport compact applications.





# **NOMENCLATURE**

#### **Engineering**

- Inside Diameter: Inside diameter (ID) of the ring when fitted (installed) to the cylinder bore diameter
- 2. Outside Diameter: Outside diameter (OD) of the ring when fitted (installed) to the cylinder bore diameter
- 3. Radial Wall: Ring width in the radial (horizontal) direction, ID to OD dimension
- 4. Axial Height: Ring width (also referred to as thickness) in the axial (vertical) direction, from top-side to bottom-side of ring

#### Clearances

- 5. End Gap: Gap clearance of the ring when fitted (installed) to the bore diameter
- 6. Free Gap: Uncompressed (uninstalled) end gap clearance of the ring
- 7. Back Clearance: When installed, the distance in the piston groove between the ring ID and the back of the ring-groove of the piston .005" minimum required
- 8. Side Clearance: When installed, the distance between the ring axial height and the piston's ring-groove width .001"-.003" recommended

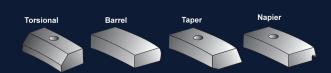
#### Ring Shapes

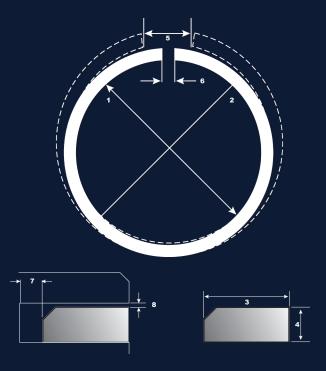
Torsional: Compression ring with ID bevel; causes twisting action; aids in sealing

Barrel Face: The curved face (OD) of a ring that makes contact with the cylinder wall; aids in sealing

Taper Face: The angled face of a ring

Napier: Hook-shaped design on the lower face of some 2nd compression rings; aids in oil control





#### Ring Terminology

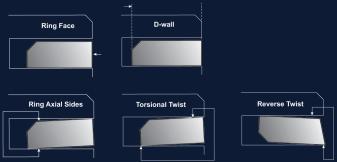
Ring Face: Front face (OD) of the ring that makes contact with the cylinder wall

Ring Side: The top and bottom (axial) surfaces of the ring

Positive Twist: An asymmetrical change (created by an ID bevel on top ID of ring) used in a top ring cross section that causes it to twist in an upward direction; it aids ring sealing

Reverse Twist: An asymmetrical change (created by an ID bevel on bottom ID of ring) used in a 2nd ring cross section that causes it to twist downward; it enhances oil scraping properties

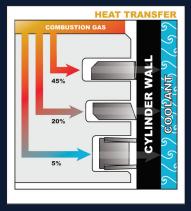
D-Wall: The Society of Automotive Engineers (S.A.E.) specification that is used to calculate the radial width of a standard automotive piston ring using the following formula: bore diameter / 22 = radial thickness, e.g., 4.125" / 22 = .188".

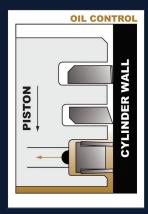


# **PISTON RING FUNCTIONS**

Piston rings typically come in sets of three rings, starting with the 1st or top-groove compression ring, followed by the second-groove ring and then the oil ring. Their function is to seal off combustion gases, aid in the heat transfer to the cylinder wall, and both lubricate and scrape down oil from the cylinder wall. The top ring serves to seal off the majority of the combustion gases and dissipate most of the heat, while the second ring helps with both of those functions and also They are to scrape oil from the cylinder walls toward the oil ring. The oil ring provides most of the oil control, metering oil along the cylinder walls on the up-stroke and scraping oil from the cylinder walls on the down stroke.







#### Top Groove Ring

Function: Top compression rings seal against the cylinder wall to trap combustion gases and increase the combustion pressure and efficiency. They also play a major role in the heat transfer process from the piston to cylinder wall and out through the engine block.

Materials: Ductile Iron; Alloy Steel; Stainless Steel

Coatings: Plasma Molybdenum "Moly"; Chrome; Gas-Nitride

#### 2nd Groove Ring

Function: Second-groove compression rings seal off combustion gases, aid in the heat transfer to the cylinder wall, and both lubricate and scrape down oil from the cylinder wall toward the oil ring to prevent oil from reaching the combustion chamber, thereby often being called a scraper ring. They also provide a second seal for trapping combustion gases, as well as aiding in heat transfer.

Materials: Grey Cast Iron; Ductile Iron

Coatings: Phosphate

#### Oil Ring

Function: Oil rings distribute and regulate (meter) oil within the cylinder wall and help scrape it back into the crankcase. This is necessary to keep the cylinder wall lubricated with a thin layer of the cooler replacement oil and to lower the friction between the piston and the cylinder thus regulating heat buildup.

Materials: 201 Stainless Steel expander; 1070 Segmental Steel or Stainless Steel Rails

Coatings: Chrome; Nitride

#### FILE FIT END GAPS

A common practice in performance applications is file fitting piston end gaps to a precise end gap using slightly oversized rings. Most Performance Ring sets are available in file fit (+.005") oversizes. The end gap refers to the clearance between the two ends of the piston ring when installed into the cylinder bore. File fitting end gaps is best done with a professional ring grinding tool, however if filing by hand always file from the outside diameter towards the inside diameter to avoid chipping of the face coating. It is recommended to file fit equal amounts from each side of the gap while keeping the gap ends square and parallel.

The recommended end gap is determined by the bore size and the application which the ring set will be utilized. Below is a chart which contains the recommended end gap factor. To use this chart, multiply the bore size by the ring end gap factor to obtain the minimum end gap which should be achieved. Example: 4.000" bore street engine with cast piston the top ring end gap factor is .004", thus 4.000" x .004" = .016" minimum end gap. It should be observed that for every .001" increase in bore diameter the ring end gap is increased by .003".

		TOP RING	2 <sup>ND</sup> RING	OIL RAILS	
Application	Cast / Forged Piston	Non UEM Hypereutectic Piston	UEM Hypereutectic Piston	All Pistons	All Pistons
Street	Bore x .004" MIN	Bore x .005" MIN	Bore x .0065" MIN	Bore x .0045" MIN	
Street/Strip	Bore x .0045" MIN	Bore X .0055" MIN	Bore X .0065" MIN	Bore x .005" MIN	
Circle Track/Drag	Bore x .005" MIN	Bore x .006" MIN	Bore x .007" MIN	Bore x .0055" MIN	
Forced Induction - up to 15 lbs	Bore x .006" MIN	Bore x .007" MIN	Bore x .0085" MIN	Bore x .0065" MIN	.015" MIN
Forced Induction - over 15 lbs	Bore x .007" MIN	Bore x .008" MIN	Bore x .009" MIN	Bore x .0075" MIN	
Nitrous - Up to 200 Hp	Bore x .006" MIN	Bore x .007" MIN	Bore x .0085" MIN	Bore x .0065" MIN	
Nitrous - Over 200 Hp	Bore x .007" MIN	Bore x .008" MIN	Bore x .009" MIN	Bore x .0075" MIN	

# PLASTIGAGE CHECKS BEARING CLEARANCES

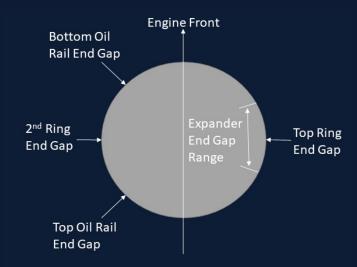
Check bearing clearances the modern, fast, accurate way with Hastings Plastigages. Plastigages are a special extruded plastic thread with accurate controlled "crush" properties. They are extremely handy for checking main and connecting rod bearing clearances, oil pump cover-to-gear clearances, and for many other clearance checks.

Each box of Plastigages contains 12 strips in individually calibrated envelopes, usually enough to check 12 engines. Available in four clearance ranges.

Part No. HPG1	<b>Size</b> .001 to .003" – .025 to .076 mm	<b>Envelope Color</b> Green
HPR1	.002 to .006" – .051 to .152mm	Red
HPB1	.004 to .009" – .102 to .229mm	Blue
HPY1	.009 to .020" – .23 to .51mm	Yellow



#### **END GAP LOCATION**



#### **BORING AND HONING**

The practice of boring and honing has become a very complex practice for modern performance engines. The following are generic guidelines, however any further questions related to boring or honing should be consulted with boring and honing professionals.

#### Material Stock Removal

- .003" with 80 100 grit stone
- .0015" with 280 320 grit stone
- .0005" with 400 600 grit stone

If surface finish can be measured using a profilometer the recommend values for generic performance applications is as follows:

- Reduced Peak Height (Rpk): 10 15 μ"
- Core Roughness Depth (Rk): 35 45 μ"
- Reduced Valley Depth (Rvk): 45 55 µ"
- Roughness Average (Ra): 15 20 μ"

For high end performance, big boost applications:

- Reduced Peak Height (Rpk): 10 20 μ"
- Core Roughness Depth (Rk): 50 60 μ"
- Reduced Valley Depth (Rvk): 60 70 μ"

#### **ENGINE BREAK-IN**

It is highly recommended that specific oil formulated for break-in is used as it has necessary properties to help aid in proper break-in of piston rings and other components. Synthetic oil is NOT recommended for initial break-in period as it contains properties that prevent wear and combat the break-in of components. If break-in oil is not readily available a conventional oil can be used.

During break-in the engine should be ran moderate to hard with no long periods of idling. For an engine to have a long and healthy life it needs to wear in properly during the early stages which will only happen if ran with moderate to heavy loads. This action will thrust the piston rings against the cylinder wall from increased pressure to aid in accelerated ring seating. After a few hundred miles the engine should be fully broken in. Used oil should be drained and filter replaced. New oil can be conventional or synthetic formulation.

# PERFORMANCE RINGS by Diameter



Тор	2nd	Oil 2.953"	Set #	Page #	Тор	2nd	Oil 4.005"	Set #	Page #
1.20mm	1.50mm	2.80mm 3.189"	SC5558	11	1/16"	1/16"	3/16" 4.063"	2M5525	15
1/16"	5/64"	5/32"	2M5545	12	5/64"	5/64"	3/16"	2M5511	15
1.00mm	1.20mm	2.80mm	SC5572	11	3/01	3,01	4.093"	21413311	
2.0011111	1.2011111	3.307"	363372		5/64"	5/64"	3/16"	2M5512	15
1.00mm	1.20mm	2.80mm	SC8513	11	3,0.	3, 0 .	4.120"	2.0.0022	
		3.445"	000000		1/16"	1/16"	3/16"	2M5590	15
1.20mm	1.20mm	3.00mm	SC5556	11		, -	4.125"		
		3.551"			.043"	.043"	3.00mm	SM5593	21
1.50mm	1.50mm	3.00mm	SN5582	23	.043"	.043"	3.00mm	SM8550	21
		3.736"			.043"	1/16"	3/16"	SM8547	21
1/16"	1/16"	3/16"	2M5567	12	.043"	1/16"	3/16"	SM8557	21
5/64"	5/64"	3/16"	2M5548	12	1.20mm	1.20mm	3.00mm	SN9050	24
		3.780"			1.50mm	1.50mm	3.00mm	2M5581	15
1.20mm	1.20mm	3.00mm	SM5565	20	1.50mm	1.50mm	3.00mm	2M8505	15
1.20mm	1.20mm	3.00mm	SN9030	23	1/16"	1/16"	3.00mm	2M5539	16
1.50mm	1.50mm	3.00mm	SM8531	20	1/16"	1/16"	1/8"	2M5501	16
1.50mm	1.50mm	3.00mm	SN8531	20	1/16"	1/16"	3/16"	2M5510	16
1/16"	1/16"	3/16"	2M5527	12	1/16"	1/16"	3/16"	2M5529	16
		3.875"			1/16"	1/16"	3/16"	2M8552	16
1/16"	1/16"	1/8"	2M5522	12	1/16"	1/16"	3/16"	2M8559	16
1		3.898"			5/64"	5/64"	3/16"	2M5513	17
1.20mm	1.20mm	3.00mm	SN9035	23			4.150"		
1.20mm	1.50mm	3.00mm	SN9055	23	1/16"	1/16"	3/16"	2M5543	17
1.50mm	1.50mm	3.00mm	SM8555	20			4.165"		
		3.910"			1/16"	1/16"	3/16"	2M5542	17
A 14 C !!									
1/16"	1/16"	3/16"	2M5575	12		I .	4.233"		
	·	3.917"			1/16"	1/16"	3/16"	2M5526	17
1.20mm	1.20mm	3.917" 3.00mm	SN9040	23			3/16" 4.250"		
1.20mm 1.20mm	1.20mm 1.50mm	3.917" 3.00mm 3.00mm	SN9040 SN9060	23	.043"	.043"	3/16" 4.250" 3.00mm	SM5597	22
1.20mm	1.20mm	3.917" 3.00mm 3.00mm 3.00mm	SN9040	23	.043"	.043"	3/16" 4.250" 3.00mm 3/16"	SM5597 SM8567	
1.20mm 1.20mm 1.50mm	1.20mm 1.50mm 1.50mm	3.917" 3.00mm 3.00mm 3.00mm 4.000"	SN9040 SN9060 SM8560	23 23 20	.043" .043" 1.50mm	.043" 1/16" 1.50mm	3/16" 4.250" 3.00mm 3/16" 3.00mm	SM5597 SM8567 2M8510	22 22
1.20mm 1.20mm 1.50mm	1.20mm 1.50mm 1.50mm	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm	SN9040 SN9060 SM8560 SM5587	23 23 20 20	.043" .043" 1.50mm	.043" 1/16" 1.50mm 1.50mm	3/16" 4.250" 3.00mm 3/16" 3.00mm	SM5597 SM8567 2M8510 2M8569	22 22 17
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1.20mm 1.20mm 1.50mm 1.50mm .043" .043" .043" .043"	1.20mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm	SN9040 SN9060 SM8560 SM5587 SM8556 SM8527 SM8537 SN9045	23 23 20 20 20 20 20 21 24	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 1/16" 5/64"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 1/16" 5/64"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3.00mm 3/16" 3/16" 3/16" 3/16"	SM5597 SM8567 2M8510 2M8569 2M5515 2M5519 2M8562 2M5514	22 22 17 17 17 17 18
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1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.50mm 1.50mm 1.50mm	1.20mm 1.50mm 1.50mm .043" .043" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 4.00mm 3.00mm	SN9040 SN9060 SM8560 SM8560 SM5587 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535	23 23 20 20 20 20 21 24 24 24 12 13	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64"  1/16" 1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360"	SM5597 SM8567 2M8510 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518	22 22 17 17 17 18 18 18
1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1.50mm	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.50mm 1.150mm	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3,00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm	SN9040 SN9060 SM8560 SM8560 SM5587 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5538	23 23 20 20 20 20 21 24 24 24 12 13 21 13	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64"  1/16" 1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16"	SM5597 SM8567 2M8510 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518	22 22 17 17 17 18 18 18 18
1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.150mm 1.150mm 1.150mm	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.50mm 1.150mm	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 1.00mm	SN9040 SN9060 SM8560 SM8587 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535 2M5538	23 23 20 20 20 20 21 24 24 24 12 13 21 13	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466"	SM5597 SM8567 2M8510 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5520 2M5536	22 22 17 17 17 18 18 18 18
1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.150mm 1.150mm 1.150mm 1.150mm	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.150mm 1.150mm 1.150mm 1.150mm	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 3.00mm 1.00mm 3.00mm 4.00mm 1/8" 1/8"	SN9040 SN9060 SM8560 SM8560 SM5587 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535 2M5538 2M5521 2M8571	23 23 20 20 20 20 21 24 24 24 12 13 21 13 13	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466" 3/16"	SM5597 SM8567 2M8510 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5520 2M5536	22 22 17 17 17 18 18 18 18
1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1/16" 1/16" 1/16"	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.150mm 1.150mm 1.16" 1/16" 1/16" 1/16"	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 4.00mm 3.00mm 1/8" 1/8" 3/16"	SN9040 SN9060 SM8560 SM8560 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535 2M5538 2M5521 2M8571 2M8571	23 23 20 20 20 20 21 24 24 24 12 13 21 13 13 13	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466" 3/16"	SM5597 SM8567 2M8569 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5520 2M5536	22 22 17 17 17 18 18 18 18 18
1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.16" 1/16" 1/16" 1/16"	1.20mm 1.50mm 1.50mm 1.50mm  .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.150mm 1.150mm 1.16" 1/16" 1/16" 1/16" 1/16"	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 3.00mm 1,00mm 1/8" 1/8" 3/16" 3/16"	SN9040 SN9060 SM8560 SM8560 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535 2M5538 2M5521 2M8571 2M8571 2M5505 2M5523	23 23 20 20 20 20 21 24 24 12 13 21 13 13 14 18	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16" 1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466" 3/16" 4.500" 3.00mm	SM5597 SM8567 2M8510 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5520 2M5536	22 22 17 17 17 18 18 18 18 18
1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.50mm 1.150mm 1.16" 1/16" 1/16" 1/16" 1/16"	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.150mm 1.16" 1/16" 1/16" 1/16" 1/16" 1/16"	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 4.00mm 3.00mm 4.01 3.00mm 3.00mm 3.00mm 4.00mm 3.00mm 3.00mm 4.01 3.00mm 3.00mm 4.00mm 3.00mm	SN9040 SN9060 SM8560 SM8560 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5538 2M5538 2M5521 2M8571 2M5505 2M5523 2M8542	23 23 20 20 20 20 21 24 24 24 12 13 21 13 13 14 18	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64"  1/16" 1/16" 1/16"  1/16"  1/16"  .043" .043"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466" 3/16" 4.500" 3.00mm 3.00mm	SM5597 SM8567 2M8569 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5528 2M5536 SM8582 SM8582 SM8592	22 22 17 17 17 18 18 18 18 18 19
1.20mm 1.20mm 1.50mm 1.50mm  .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1.16" 1/16" 1/16" 1/16" 1/16" 1/16"	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.150mm 1.16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16"	3.917" 3.00mm 3.00mm 3.00mm 4.000" 3.00mm 3.00mm 3/16" 3/16" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 4.00mm 3.00mm 4.00mm 3.18" 1/8" 3/16" 3/16" 3/16" 3/16"	SN9040 SN9060 SM8560 SM8560 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535 2M5538 2M5521 2M8571 2M8571 2M5505 2M5523 2M8542 2M8543	23 23 20 20 20 20 21 24 24 24 12 13 13 13 14 18 14	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16"  1/16" 1/16" 1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466" 3/16" 4.500" 3.00mm 3.00mm 3.00mm	SM5597 SM8567 2M8510 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5528 2M5536 2M5537	22 22 17 17 17 18 18 18 18 18 18 22 22 19
1.20mm 1.20mm 1.50mm 1.50mm 1.50mm .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16"	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16"	3.917" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 3,16" 3,16" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 4.00mm 3.00mm 4.00mm 3.18" 1/8" 3/16" 3/16" 3/16" 3/16" 3/16"	SN9040 SN9060 SM8560 SM8560 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535 2M5538 2M5538 2M5521 2M8571 2M8571 2M8571 2M8542 2M8543 2M8543	23 23 20 20 20 20 21 24 24 24 12 13 13 13 14 18 14 14	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64"  1/16" 1/16" 1/16"  1/16"  1/16"  1/16"  1/16"  1/16"  1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1.50mm 1.50mm	3/16" 4.250" 3.00mm 3/16" 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466" 3/16" 3.00mm 3.00mm 3.00mm 3.00mm	SM5597 SM8567 2M8569 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5528 2M5536 2M5537	22 22 17 17 17 18 18 18 18 18 22 22 19
1.20mm 1.20mm 1.50mm 1.50mm 1.50mm .043" .043" .043" 1.20mm 1.20mm 1.50mm 1.50mm 1.50mm 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16"	1.20mm 1.50mm 1.50mm 1.50mm .043" .043" 1/16" 1/16" 1.20mm 1.50mm 1.50mm 1.50mm 1.16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16"	3.917" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 3,16" 3,16" 3.00mm 3.00mm 3.00mm 3.00mm 3.00mm 4.00mm 3.00mm 4.00mm 3.18" 1/8" 3/16" 3/16" 3/16" 3/16" 3/16"	SN9040 SN9060 SM8560 SM8560 SM8556 SM8527 SM8537 SN9045 SN9065 2M5540 2M8521 SM8565 2M5535 2M5538 2M5538 2M5521 2M8571 2M8571 2M8571 2M8542 2M8543 2M8543	23 23 20 20 20 20 21 24 24 24 12 13 13 13 14 18 14 14	.043" .043" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64"  1/16" 1/16" 1/16"  1/16"  1/16"  1/16"  1/16"  1/16"  1/16"	.043" 1/16" 1.50mm 1.50mm 1/16" 1/16" 5/64" 5/64" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/16"	3/16" 4.250" 3.00mm 3/16" 3.00mm 3.00mm 3/16" 3/16" 3/16" 3/16" 4.320" 3/16" 4.360" 3/16" 4.466" 3/16" 4.500" 3.00mm 3.00mm 3.00mm 3.00mm 3.16"	SM5597 SM8567 2M8569 2M8569 2M5515 2M5519 2M8562 2M5514 2M5518 2M5520 2M5528 2M5536 2M5537 SM8582 SM8592 2M8525 2M8535 2M5589	22 22 17 17 17 18 18 18 18 18 28 29 21 19



		S	NH S	SER	IES	- 1.0	1.0 x 1.2 x 2.8			
Set No	Cyl	Suffix	Во	re	Тор	Wall	2nd	Wall	Oil \	Wall
		7500	75.00mm	2.9528"	2.70mm	.106"	3.20mm	.126"	3.18mm	.125"
		7550	75.50mm	2.9724"	2.70mm	.106"	3.20mm	.126"	3.18mm	.125"
		7600	76.00mm	2.9921"	2.70mm	.106"	3.20mm	.126"	3.18mm	.125"
		8100	81.00mm	3.1890"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8125	81.25mm	3.1988"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8150	81.50mm	3.2087"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8200	82.00mm	3.2283"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8250	82.50mm	3.2480"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8255	82.55mm	3.2500"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8300	83.00mm	3.2677"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8350	83.50mm	3.2874"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8400	84.00mm	3.3071"	3.10mm	.122"	3.40mm	.134"	3.18mm	.125"
		8425	84.25mm	3.3169"	3.10mm	.122"	3.50mm	.138"	3.18mm	.125"
		8450	84.50mm	3.3268"	3.10mm	.122"	3.50mm	.138"	3.18mm	.125"
SNH	1	8500	85.00mm	3.3465"	3.10mm	.122"	3.50mm	.138"	3.18mm	.125"
		8550	85.50mm	3.3661"	3.10mm	.122"	3.50mm	.138"	3.18mm	.125"
		8600	86.00mm	3.3858"	3.10mm	.122"	3.50mm	.138"	3.18mm	.125"
		8625	86.25mm	3.3957"	3.30mm	.122"	3.60mm	.138"	3.18mm	.125"
		8650	86.50mm	3.4055"	3.30mm	.130"	3.60mm	.142"	3.18mm	.125"
		8700	87.00mm	3.4252"	3.30mm	.130"	3.60mm	.142"	3.18mm	.125"
		8750	87.50mm	3.4449"	3.30mm	.130"	3.60mm	.142"	3.18mm	.125"
		8800	88.00mm	3.4646"	3.30mm	.130"	3.60mm	.142"	3.18mm	.125"
		8850	88.50mm	3.4843"	3.30mm	.130"	3.60mm	.142"	3.18mm	.125"
		8900	89.00mm	3.5039"	3.30mm	.130"	3.60mm	.142"	3.18mm	.125"
		8950	89.50mm	3.5236"	3.30mm	.130"	3.70mm	.146"	3.18mm	.125"
		9000	90.00mm	3.5433"	3.30mm	.130"	3.70mm	.146"	3.18mm	.125"
		9025	90.25mm	3.5531"	3.30mm	.130"	3.70mm	.146"	3.18mm	.125"
		9100	91.00mm	3.5827"	3.30mm	.130"	3.70mm	.146"	3.18mm	.125"
		9200	92.00mm	3.6220"	3.30mm	.130"	3.70mm	.146"	3.18mm	.125"
		Ring			2nd F				Oil Ring	
	1.00mm (.0	393") Widt	h		1.20mm (.04	72") Width		2.80n	nm (.1102")	Width
	Steel I	Nitride			Ductile I	Napier			Steel Nitride	2
					•					
							TARRE			



				;	SC S	SER	IES	i		
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD 010	2.953" 2.963"	Drop In Drop In	Тор	1.20mm .0472"	2.75mm .108"		Steel	Chrome
SC5558	4	020 030	2.973" 2.983"	Drop In Drop In	2nd	1.50mm .0590"	3.05mm .120"		Grey Iron	Phosphate
		040 060	2.993" 3.013"	Drop In Drop In	Oil (8 lbs)	2.80mm .1102"	3.18mm .125"	TRANS	Steel	Chrome
		STD 010	3.189" 3.199"	Drop In Drop In	Тор	1.00mm .0393"	3.18mm .125"		Steel	Chrome
SC5572	4	020 030	3.209" 3.219"	Drop In Drop In	2nd	1.20mm .0472"	3.30mm .130"		Grey Iron	Phosphate
		040	3.229"	Drop In	Oil (12 lbs)	2.80mm .1102"	3.18mm .125"	AND	Steel	Chrome
		STD 020	3.307" 3.327"	Drop In Drop In	Тор	1.00mm .0393"	3.18mm .125"		Steel	Chrome
SC8513	4				2nd	1.20mm .0472"	3.18mm .125"		Grey Iron	Phosphate
					Oil (12 lbs)	2.80mm .1102"	3.18mm .125"	TRANS	Steel	Chrome
		STD 010	3.445" 3.455"	Drop In Drop In	Тор	1.20mm .0472"	3.38mm .133"		Steel	Chrome
SC5556	4	020 030	3.465" 3.475"	Drop In Drop In	2nd	1.20mm .0472"	3.50mm .138"		Grey Iron	Phosphate
		040 060	3.485" 3.505"	Drop In Drop In	Oil (9 lbs)	3.00mm .1181"	3.80mm .150"	THE REAL PROPERTY.	Steel	Chrome



				4	2M \$	SER	IES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD	3.188"	Drop In	Тор	1.58mm	3.55mm		Ductile Iron	Moly
		005	3.188"	File Fit	H	1/16" 2.00mm	.140" 3.55mm			
2M5545	4				2nd	5/64"	.140"		Grey Iron	Phosphate
					Oil	4.00mm	4.20mm	TATA	Steel	Chrome
					(16 lbs)	5/32"	.165"		0100.	5
		STD	3.736"	Drop In	Тор	1.58mm	4.00mm		Ductile Iron	Moly
		035	3.766"	File Fit	<u> </u>	1/16" 1.58mm	.158" 4.00mm			
2M5567	8				2nd	1/16"	.158"		Grey Iron	Phosphate
					Oil	4.75mm	4.57mm	TARAE	Steel	Chrome
					(19 lbs)	3/16"	.180"			
		STD	3.736"	Drop In	Тор	2.00mm	4.32mm		Ductile Iron	Moly
		045 065	3.776" 3.796"	File Fit File Fit	H	5/64" 2.00mm	.170" 4.00mm			
2M5548	8	003	3.790	THETIC	2nd	5/64"	.158"		Grey Iron	Phosphate
					Oil	4.75mm	3.80mm	TARRE	Steel	Chrome
					(15 lbs)	3/16"	.150"			
		STD	3.780"	Drop In	Тор	1.58mm	4.40mm		Ductile Iron	Moly
		020 030	3.800" 3.810"	Drop In Drop In	-	1/16" 1.58mm	.173" 4.40mm			
2M5527	4	035	3.810"	File Fit	2nd	1/16"	.173"		Grey Iron	Phosphate
		040	3.820"	Drop In	Oil	4.75mm	5.08mm	TARAE	Steel	Chrome
		045	3.820"	File Fit	(19 lbs)	3/16"	.200"			
		STD	3.875"	Drop In	Тор	1.58mm	4.55mm		Ductile Iron	Moly
		005 065	3.875" 3.935"	File Fit File Fit	-	1/16" 1.58mm	.179" 4.55mm			
2M5522	8	003	3.333	1116116	2nd	1/16"	.179"		Grey Iron	Phosphate
					Oil	4.75mm	5.08mm	TARAE	Steel	Chrome
					(15 lbs)	1/8"	.200"			
		STD	3.910"	Drop In	Тор	1.58mm	4.58mm		Ductile Iron	Moly
		030 040	3.940" 3.950"	Drop In Drop In	-	1/16" 1.58mm	.180" 4.58mm			
2M5575	8	060	3.970"	Drop In	2nd	1/16"	.180"		Grey Iron	Phosphate
					Oil	4.75mm	4.70mm	TARA	Steel	Chrome
					(21 lbs)	3/16"	.185"			
		STD	4.00"	Drop In	Тор	1.50mm	3.95mm		Ductile Iron	Moly
		005 025	4.000" 4.020"	File Fit File Fit		.0590" 1.50mm	.155" 4.20mm		_	
		030	4.030"	Drop In	2nd	.0590"	.165"		Grey Iron	Phosphate
		035	4.035"	Drop In	Oil	3.00mm	3.80mm	TARAZ	Steel	Chrome
2M5540	8	040	4.040" 4.045"	Drop In	(11 lbs)	.1181"	.150"			
		045 060	4.045"	Drop In Drop In						
		065	4.060"	File Fit						
		085	4.080"	File Fit						
		095 105	4.090" 4.100"	File Fit File Fit						
		102	4.100	riie Fit					l	



				,	2M S	SER	IES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD 005	4.000" 4.000"	Drop In File Fit	Тор	1.50mm .0590"	3.95mm .155"		Ductile Iron	Moly
2M8521	8	035 045	4.035" 4.045"	Drop In Drop In	2nd	1.50mm .0590"	4.15mm .163"		Ductile Iron	Phosphate
		065	4.060"	File Fit	Oil (11 lbs)	3.00mm .1181"	3.80mm .150"	TARRE .	Steel	Chrome
		STD 005	4.000" 4.000"	Drop In File Fit	Тор	1.50mm .0590"	3.95mm .155"		Ductile Iron	Moly
2M5535	8	030	4.030"	Drop In	2nd	1.50mm .0590"	4.20mm .165"		Grey Iron	Phosphate
					Oil (21 lbs)	4.00mm 5/32"	3.30mm .130"	THE REAL PROPERTY.	Steel	Chrome
		STD 005	4.000" 4.055"	Drop In Drop In	Тор	1.58mm 1/16"	4.65mm .183"		Ductile Iron	Moly
		010 020	4.010" 4.020"	Drop In Drop In	2nd	1.58mm 1/16"	4.65mm .183"	1	Grey Iron	Phosphate
		025 030	4.020" 4.030"	File Fit Drop In	Oil (11 lbs)	3.00mm .1181"	3.80mm .150"	33333	Steel	Chrome
2M5538	8	035 040	4.035" 4.040"	Drop In Drop In						
		045 060	4.045" 4.060"	Drop In Drop In						
		065 075	4.065" 4.070"	File Fit File Fit						
		085	4.080"	File Fit						
		STD 005	4.000" 4.000"	Drop In File Fit	Тор	1.58mm 1/16"	4.65mm .183"		Ductile Iron	Moly
		010 020	4.010" 4.020"	Drop In Drop In	2nd	1.58mm 1/16"	4.65mm .183"		Grey Iron	Phosphate
2M5521	8	025 030	4.020" 4.030"	File Fit Drop In	Oil (16 lbs)	3.18mm 1/8"	4.57mm .180"	TARREST OF	Steel	Chrome
		035 040	4.030" 4.040"	File Fit Drop In						
		045	4.040"	File Fit						
		060 065	4.060" 4.060"	Drop In File Fit						
		STD 005	4.000" 4.000"	Drop In File Fit	Тор	1.58mm 1/16"	4.65mm .183"		Ductile Iron	Moly
2M8571	8	030 035	4.030" 4.030"	Drop In File Fit	2nd	1.58mm 1/16"	4.25mm .167"		Ductile Iron	Phosphate
		045 065	4.040" 4.060"	File Fit File Fit	Oil (16 lbs)	3.18mm 1/8"	4.57mm .180"	THE PARTY OF THE P	Steel	Chrome



				2	M S	ERI	ES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD	4.000"	Drop In	Тор	1.58mm	4.65mm		Ductile Iron	Moly
		005	4.000"	File Fit		1/16"	.183"			- ,
		010	4.010"	Drop In	2nd	1.58mm	4.65mm		Grey Iron	Phosphate
21/45505	0	030	4.030"	Drop In	0:1	1/16"	.183"		,	
2M5505	8	035 040	4.030" 4.040"	File Fit Drop In	Oil (15 lbs)	4.75mm 3/16"	3.80mm .150"	TARRE	Steel	Chrome
		040	4.040" 4.040"	File Fit	(15 105)	3/10	.150			
		060	4.040"	Drop In						
		065	4.060"	File Fit						
						4.50	4.65			
		STD	4.000"	Drop In	Тор	1.58mm	4.65mm		Ductile Iron	Moly
		005 010	4.000" 4.010"	File Fit Drop In	$\vdash$	1/16" 1.58mm	.183" 4.65mm			
		020	4.010	Drop In	2nd	1/16"	.183"		Grey Iron	Phosphate
		025	4.020"	File Fit	Oil	4.75mm	5.08mm			
		030	4.030"	Drop In	(22 lbs)	3/16"	.200"	TARRE	Steel	Chrome
2M5523	8	035	4.030"	File Fit	, ,					
		040	4.040"	Drop In						
		045	4.040"	File Fit						
		060	4.060"	Drop In						
		065	4.060"	File Fit						
oxdot		080	4.080"	Drop In						
		STD	4.000"	Drop In	Ton	1.58mm	4.65mm		Dustile Iron	Moly
		005	4.000"	File Fit	Тор	1/16"	.183"		Ductile Iron	Moly
		030	4.030"	Drop In	2nd	1.58mm	4.25mm		Ductile Iron	Phosphate
2M8542	8	035	4.030"	File Fit		1/16"	.167"		Buctile iron	Thosphate
	-	040	4.040"	Drop In	Oil	4.75mm	5.08mm	SEREC	Steel	Chrome
		045	4.040"	File Fit	(22 lbs)	3/16"	.200"			
		060 065	4.060" 4.060"	Drop In						
				File Fit						
		STD	4.000"	Drop In	Тор	1.58mm	4.65mm		Ductile Iron	Moly
		005	4.000"	File Fit		1/16"	.183"			<u> </u>
		030	4.030"	Drop In	2nd	1.58mm	4.25mm		Ductile Iron	Phosphate
2M8543	8	035 040	4.030" 4.040"	File Fit Drop In	Oil	1/16" 4.75mm	.167" 3.80mm			
		045	4.040"	File Fit	(15 lbs)	3/16"	.150"	TRACE	Steel	Chrome
		060	4.060"	Drop In	(20 .00)	3,10	.130			
		065	4.060"	File Fit						
		STD	4.000"	Drop In		2.00mm	4.65mm			
		020	4.000"	Drop In	Тор	5/64"	.183"		Ductile Iron	Moly
		030	4.030"	Drop In		2.00mm	4.65mm			
2M5502	4	060	4.060"	Drop In	2nd	5/64"	.183"		Grey Iron	Phosphate
				'	Oil	4.75mm	5.08mm	270	Ctool	Chromo
					(22 lbs)	3/16"	.200"	200 AND	Steel	Chrome
T		STD	4.000"	Drop In		2.00mm	4.65mm			
		030	4.030"	Drop In	Тор	5/64"	.183"		Ductile Iron	Moly
20.45524	0	040	4.040"	Drop In	2: 1	2.00mm	4.65mm		Constitution	Dhairb
2M5504	8	045	4.045"	File Fit	2nd	5/64"	.183"		Grey Iron	Phosphate
					Oil	4.75mm	3.80mm	370.7	Steel	Chrome
					(15 lbs)	3/16"	.150"	TARA	Sicci	Cilionie



				2	M S	ERI	ES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD	4.000"	Drop In	Тор	2.00mm	4.65mm		Ductile Iron	Moly
		005	4.000"	File Fit	⊢—̀	5/64"	.183"			,
		020 025	4.020" 4.020"	Drop In File Fit	2nd	2.00mm 5/64"	4.65mm .183"		Grey Iron	Phosphate
		023	4.020	Drop In	Oil	4.75mm	5.08mm			
2M5508	8	035	4.030"	File Fit	(22 lbs)	3/16"	.200"	SARAGE	Steel	Chrome
		040	4.040"	Drop In						
		045	4.040"	File Fit						
		060	4.060"	Drop In						
		065	4.060"	File Fit						
		STD	4.050"	Drop In	Тор	1.58mm	4.77mm		Ductile Iron	Moly
		005	4.050"	File Fit		1/16"	.188"			,
2M5525	8	030 035	4.080" 4.080"	Drop In File Fit	2nd	1.58mm 1/16"	4.77mm .188"		Grey Iron	Phosphate
		060	4.080 4.110"	Drop In	Oil	4.75mm	5.08mm			
		065	4.110"	File Fit	(22 lbs)	3/16"	.200"	TATAL	Steel	Chrome
		STD	4.063"	Drop In		2.00mm	4.72mm			
		005	4.063"	File Fit	Тор	5/64"	.186"		Ductile Iron	Moly
20.45544	0	035	4.093"	File Fit	2 1	2.00mm	4.72mm			BI I .
2M5511	8				2nd	5/64"	.186"		Grey Iron	Phosphate
					Oil	4.75mm	5.08mm	TARA	Steel	Chrome
					(22 lbs)	3/16"	.200"		01001	00
		STD	4.093"	Drop In	Тор	2.00mm	4.72mm		Ductile Iron	Moly
		005	4.093"	File Fit		5/64"	.186"		2 4 0 6 11 0 11	,
2M5512	8	030	4.123"	File Fit	2nd	2.00mm	4.72mm		Grey Iron	Phosphate
		060	4.153"	File Fit	Oil	5/64" 4.75mm	.186" 5.08mm			
					(22 lbs)	3/16"	.200"	DERECT	Steel	Chrome
		STD	4.120"	Drop In		1.58mm	4.83mm			
		035	4.120	File Fit	Тор	1/16"	.190"		Ductile Iron	Moly
20.45500	0	045	4.160"	File Fit	21	1.58mm	4.83mm		Constitution	Dhaadhata
2M5590	8	065	4.180"	File Fit	2nd	1/16"	.190"		Grey Iron	Phosphate
					Oil	4.75mm	5.08mm	TARRE	Steel	Chrome
					(22 lbs)	3/16"	.200"			
		STD	4.125"	Drop In	Тор	1.50mm	3.95mm		Ductile Iron	Moly
		005	4.125"	File Fit		.0590"	.155"		2 4 0 6 11 0 11	
		020	4.145" 4.155"	Drop In	2nd	1.50mm .0590"	4.20mm .165"		Grey Iron	Phosphate
2M5581	8	030 035	4.155 4.155"	Drop In File Fit	Oil	3.00mm	3.80mm			
		040	4.165"	Drop In	(11 lbs)	.1181"	.150"	MARKE	Steel	Chrome
		045	4.165"	File Fit						
		065	4.185"	File Fit		<u></u>	<u></u>			
		STD	4.125"	Drop In	Ton	1.50mm	3.95mm		Ductile Iron	Mahr
		005	4.125"	File Fit	Тор	.0590"	.155"		Ductile Iron	Moly
2M8505	8	035	4.155"	File Fit	2nd	1.50mm	4.15mm		Ductile Iron	Phosphate
		045	4.165"	File Fit		.0590"	.163"			
		065	4.185"	File Fit	Oil (11 lbs)	3.00mm .1181"	3.80mm .150"	SERVE	Steel	Chrome
					(11102)	.1101	.130			



	2M SERIES												
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating			
		STD	4.125"	Drop In	Тор	1.58mm	4.83mm		Ductile Iron	Moly			
		005	4.125"	File Fit		1/16"	.190"						
2M5539	8	010	4.135"	Drop In	2nd	1.58mm	4.83mm		Grey Iron	Phosphate			
		030 035	4.155" 4.155"	Drop In File Fit	Oil	1/16" 3.00mm	.190" 3.80mm						
		040	4.165"	Drop In	(11 lbs)	.1181"	.150"	TRANS	Steel	Chrome			
		CTD				1.58mm							
		STD 005	4.125" 4.125"	Drop In File Fit	Тор	1.58mm 1/16"	4.83mm .190"		Ductile Iron	Moly			
		030	4.155"	Drop In	<b>.</b>	1.58mm	4.83mm		_				
2M5501	8	035	4.155"	File Fit	2nd	1/16"	.190"		Grey Iron	Phosphate			
					Oil	3.18mm	4.32mm	THE REAL PROPERTY.	Steel	Chrome			
				$oxed{oxed}$	(11 lbs)	1/8"	.170"	44	3(66)	Cilionie			
		STD	4.125"	Drop In	Тор	1.58mm	4.83mm		Ductile Iron	Moly			
		005	4.125"	File Fit	ТОР	1/16"	.190"		Ductile Iron	ivioly			
	_	030	4.155"	Drop In	2nd	1.58mm	4.83mm		Grey Iron	Phosphate			
2M5510	8	035	4.155"	File Fit	Oil	1/16"	.190"		,				
		040 045	4.165" 4.165"	Drop In File Fit	(15 lbs)	4.75mm 3/16"	3.80mm .150"	TARRE	Steel	Chrome			
		060	4.185"	Drop In	(13 103)	3/10	.130						
		STD	4.125"	Drop In		1.58mm	4.83mm						
		005	4.125"	File Fit	Тор	1/16"	.190"		Ductile Iron	Moly			
		010	4.135"	Drop In	2nd	1.58mm	4.83mm		Craylran	Dhasabata			
		020	4.145"	Drop In	2nd	1/16"	.190"		Grey Iron	Phosphate			
		025	4.145"	File Fit	Oil	4.75mm	5.08mm	TARA	Steel	Chrome			
2M5529	8	030	4.155"	Drop In	(22 lbs)	3/16"	.200"						
		035 040	4.155" 4.165"	File Fit									
		040	4.165 4.165"	Drop In File Fit									
		060	4.185"	Drop In									
		065	4.185"	File Fit									
		STD	4.125"	Drop In	$\overline{}$	1.58mm	4.83mm						
		005	4.125"	File Fit	Тор	1/16"	.190"		Ductile Iron	Moly			
		010	4.135"	Drop In	2nd	1.58mm	4.35mm		Ductile Iron	Phosphate			
		020	4.145"	Drop In		1/16"	.170"		Ductile II OII	Thospilate			
21.40552	6	025	4.145"	File Fit	Oil	4.75mm	5.08mm	TARRE	Steel	Chrome			
2M8552	8	030 035	4.155"	Drop In	(22 lbs)	3/16"	.200"						
		035	4.155" 4.165"	File Fit Drop In									
		045	4.165"	File Fit									
		060	4.185"	Drop In									
		065	4.185"	File Fit									
		STD	4.125"	Drop In	Ton	1.58mm	4.83mm		Ductile Iron	Moh			
		005	4.125"	File Fit	Тор	1/16"	.190"		Ductile Iron	Moly			
		030	4.155"	Drop In	2nd	1.58mm	4.35mm		Ductile Iron	Phosphate			
2M8559	8	035	4.155"	File Fit		1/16"	.170"	~					
		040	4.165" 4.165"	Drop In	Oil (15 lbs)	4.75mm 3/16"	3.80mm .150"	TARRE	Steel	Chrome			
		045 060	4.165" 4.185"	File Fit Drop In	(13 108)	3/10	.150						
		065	4.185"	File Fit									
		505	7.103	1110110		<u> </u>	<u> </u>						



				2	M S	ERI	ES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD 005	4.125" 4.125"	Drop In File Fit	Тор	2.00mm 5/64"	4.83mm .190"		Ductile Iron	Moly
		025 030	4.145" 4.155"	File Fit Drop In	2nd	2.00mm 5/64"	4.83mm .190"		Grey Iron	Phosphate
2M5513	8	035	4.155"	File Fit	Oil	4.75mm	5.08mm	DARRE	Steel	Chrome
		040	4.165"	Drop In	(22 lbs)	3/16"	.200"		Steel	Cilionic
		045 060	4.165" 4.185"	File Fit Drop In						
		065	4.185"	File Fit						
		STD	4.150"	Drop In	Тор	1.58mm	4.83mm		Ductile Iron	Moly
		005	4.150"	File Fit		1/16"	.190"			,
2M5543	8	030 035	4.180" 4.180"	Drop In File Fit	2nd	1.58mm 1/16"	4.83mm .190"		Grey Iron	Phosphate
		065	4.210"	File Fit	Oil	4.75mm	5.08mm	DARAGE	Steel	Chrome
					(22 lbs)	3/16"	.200"		31001	Cilionic
		STD 005	4.165" 4.165"	Drop In File Fit	Тор	1.58mm 1/16"	4.83mm .190"		Ductile Iron	Moly
2M5542	8	030 045	4.195" 4.205"	Drop In File Fit	2nd	1.58mm 1/16"	4.83mm .190"		Grey Iron	Phosphate
		065	4.205"	File Fit	Oil	4.75mm	5.08mm	TRADE	Steel	Chrome
					(22 lbs)	3/16"	.200"			
		STD 030	4.233" 4.263"	Drop In Drop In	Тор	1.58mm 1/16"	4.83mm .190"		Ductile Iron	Moly
2M5526	8	035	4.263"	File Fit	2nd	1.58mm 1/16"	4.83mm .190"		Grey Iron	Phosphate
					0il	4.75mm	5.08mm	TRADE	Steel	Chrome
					(22 lbs)	3/16"	.200"			
		STD 030	4.250" 4.280"	Drop In Drop In	Тор	1.50mm .0590"	3.95mm .155"		Ductile Iron	Moly
2M8569	8				2nd	1.50mm .0590"	4.20mm .165"		Grey Iron	Phosphate
					Oil (11 lbs)	3.00mm .1181"	3.80mm .150"	SARAGE	Steel	Chrome
		STD	4.250"	Drop In	(11103)	1.50mm	3.95mm			
		005	4.250"	File Fit	Тор	.0590"	.155"		Ductile Iron	Moly
2M8510	8	035 060	4.280" 4.310"	File Fit Drop In	2nd	1.50mm .0590"	4.20mm .165"		Ductile Iron	Phosphate
		065	4.310"	File Fit	Oil (15 lbs)	3.00mm	3.80mm	STATE	Steel	Chrome
		0=5			(13 ID2)	.1181"	.150"			
		STD 030	4.250" 4.280"	Drop In Drop In	Тор	1.58mm 1/16"	4.97mm .196"		Ductile Iron	Moly
2M5515	8	035 060	4.280" 4.310"	File Fit Drop In	2nd	1.58mm 1/16"	4.97mm .196"		Grey Iron	Phosphate
		065	4.310"	File Fit	Oil	4.75mm	3.80mm	MARIE	Steel	Chrome
		125	4.375"	Drop In	(15 lbs)	3/16"	.150"			
		STD 005	4.250" 4.250"	Drop In File Fit	Тор	1.58mm 1/16"	4.97mm .196"		Ductile Iron	Moly
		010	4.260"	Drop In	2nd	1.58mm	4.97mm		Grey Iron	Phosphate
		020	4.270"	Drop In		1/16"	.196"		= = ;	35 5.760
2M5519	8	030 035	4.280" 4.280"	Drop In File Fit	Oil (22 lbs)	4.75mm 3/16"	5.08mm .200"	SERE	Steel	Chrome
		040	4.290"	Drop In	(== .55)	3,10	50			
		060	4.310"	Drop In						
		065 125	4.310" 4.375"	File Fit Drop In						
		123	4.3/3	ווו אסים		<u> </u>				



				2	M S	ERI	ES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD 005	4.250" 4.250"	Drop In File Fit	Тор	1.58mm 1/16"	4.97mm .196"		Ductile Iron	Moly
2M8562	8	030 035	4.280" 4.280"	Drop In File Fit	2nd	1.58mm 1/16"	4.45mm .175"		Ductile Iron	Phosphate
21110302	J	040 060	4.290" 4.310"	Drop In Drop In	Oil (22 lbs)	4.75mm 3/16"	5.08mm .200"	THE REAL	Steel	Chrome
		065 125	4.310" 4.375"	File Fit Drop In						
		STD 030	4.250" 4.280"	Drop In Drop In	Тор	2.00mm 5/64"	4.97mm .196"		Ductile Iron	Moly
2M5514	8	060	4.310"	Drop In	2nd	2.00mm 5/64"	4.97mm .196"		Grey Iron	Phosphate
					Oil (15 lbs)	4.75mm 3/16"	3.80mm .150"	TARRE	Steel	Chrome
		STD 005	4.250" 4.250"	Drop In File Fit	Тор	2.00mm 5/64"	4.97mm .196"		Ductile Iron	Moly
2M5518	8	030 035	4.280" 4.280"	Drop In File Fit	2nd	2.00mm 5/64"	4.97mm .196"		Grey Iron	Phosphate
		040 060	4.290" 4.310"	Drop In Drop In	Oil (22 lbs)	4.75mm 3/16"	5.08mm .200"	THE PARTY	Steel	Chrome
		065	4.310"	File Fit						
		STD 030	4.320" 4.350"	Drop In Drop In	Тор	1.58mm 1/16"	5.00mm .197"		Ductile Iron	Moly
2M5520	8				2nd	1/16" 1.58mm 1/16"	.197" 5.00mm .197"		Ductile Iron Grey Iron	Moly Phosphate
2M5520	8	030	4.350"	Drop In	H	1/16" 1.58mm	.197" 5.00mm			
2M5520	8	030	4.350"	Drop In	2nd Oil	1/16" 1.58mm 1/16" 4.75mm	.197" 5.00mm .197" 3.80mm		Grey Iron	Phosphate
		030 035 STD 005 030 035	4.350" 4.350" 4.320" 4.320" 4.350" 4.350"	Drop In File Fit  Drop In File Fit Drop In File Fit	2nd Oil (15 lbs) Top 2nd	1/16" 1.58mm 1/16" 4.75mm 3/16"  1.58mm 1/16" 1.58mm 1/16"	.197" 5.00mm .197" 3.80mm .150" 5.00mm .197" 5.00mm .197"		Grey Iron Steel	Phosphate Chrome
2M5520 2M5528	8	030 035 STD 005 030 035 040 045	4.350" 4.350" 4.320" 4.320" 4.350" 4.360" 4.360"	Drop In File Fit Drop In File Fit Drop In File Fit Drop In File Fit	2nd Oil (15 lbs)	1/16" 1.58mm 1/16" 4.75mm 3/16" 1.58mm 1/16" 1.58mm	.197" 5.00mm .197" 3.80mm .150" 5.00mm .197" 5.00mm		Grey Iron Steel Ductile Iron	Phosphate Chrome Moly
		030 035 STD 005 030 035 040 045 055 060	4.350" 4.350" 4.320" 4.320" 4.350" 4.360" 4.360" 4.375" 4.380"	Drop In File Fit	2nd Oil (15 lbs) Top 2nd Oil	1/16" 1.58mm 1/16" 4.75mm 3/16" 1.58mm 1/16" 1.58mm 1/16" 4.75mm	.197" 5.00mm .197" 3.80mm .150" 5.00mm .197" 5.00mm .197" 5.08mm		Grey Iron Steel Ductile Iron Grey Iron	Phosphate Chrome Moly Phosphate
		030 035 035 STD 005 030 035 040 045 055 060 065	4.350" 4.350" 4.350" 4.320" 4.350" 4.350" 4.360" 4.360" 4.375" 4.380"	Drop In File Fit	2nd Oil (15 lbs) Top 2nd Oil	1/16" 1.58mm 1/16" 4.75mm 3/16" 1.58mm 1/16" 1.58mm 1/16" 4.75mm 3/16"	.197" 5.00mm .197" 3.80mm .150" 5.00mm .197" 5.00mm .197" 5.08mm .200"		Grey Iron Steel Ductile Iron Grey Iron	Phosphate Chrome Moly Phosphate
		030 035 035 STD 005 030 035 040 045 055 060 065	4.350" 4.350" 4.350" 4.320" 4.350" 4.360" 4.360" 4.380" 4.360" 4.380"	Drop In File Fit Drop In File Fit Drop In File Fit Drop In File Fit Drop In Drop In Drop In File Fit	2nd Oil (15 lbs) Top 2nd Oil	1/16" 1.58mm 1/16" 4.75mm 3/16" 1.58mm 1/16" 1.58mm 1/16" 4.75mm 3/16"  1.58mm 1/16"	.197" 5.00mm .197" 3.80mm .150" 5.00mm .197" 5.00mm .197" 5.08mm .200"		Grey Iron Steel Ductile Iron Grey Iron	Phosphate Chrome Moly Phosphate
2M5528		030 035 035 STD 005 030 035 040 045 055 060 065 STD 020 030 035	4.350" 4.350" 4.320" 4.320" 4.350" 4.360" 4.360" 4.380" 4.380" 4.380" 4.390" 4.390"	Drop In File Fit Drop In File Fit Drop In File Fit Drop In File Fit Drop In Drop In Drop In File Fit	2nd Oil (15 lbs) Top 2nd Oil (22 lbs) Top	1/16" 1.58mm 1/16" 4.75mm 3/16" 1.58mm 1/16" 4.75mm 3/16" 4.75mm 3/16"  1.58mm 1/16" 1.58mm 1/16"	.197" 5.00mm .197" 3.80mm .150" 5.00mm .197" 5.00mm .200" 5.08mm .200" 5.08mm .200"		Grey Iron Steel  Ductile Iron Grey Iron Steel	Phosphate Chrome Moly Phosphate Chrome
	8	030 035 035 STD 005 030 035 040 045 055 060 065 STD 020 030	4.350" 4.350" 4.350" 4.320" 4.350" 4.360" 4.360" 4.380" 4.360" 4.380" 4.380" 4.390"	Drop In File Fit Drop In File Fit Drop In File Fit Drop In File Fit Drop In Drop In Drop In File Fit	2nd Oil (15 lbs) Top 2nd Oil (22 lbs)	1/16" 1.58mm 1/16" 4.75mm 3/16" 1.58mm 1/16" 1.58mm 1/16" 4.75mm 3/16"  1.58mm 1/16" 1.58mm 1/16"	.197" 5.00mm .197" 3.80mm .150" 5.00mm .197" 5.00mm .197" 5.08mm .200" 5.08mm .200"		Grey Iron Steel  Ductile Iron Grey Iron Steel  Ductile Iron	Phosphate Chrome  Moly Phosphate Chrome



				2	M S	ERI	ES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD	4.467"	Drop In	Тор	1.58mm	5.13mm		Ductile Iron	Moly
		004	4.467"	File Fit		1/16" 1.58mm	.202" 5.13mm			
2M5537	8				2nd	1/16"	.202"		Grey Iron	Phosphate
					Oil	4.75mm	5.08mm	270.70	Steel	Chrome
					(22 lbs)	3/16"	.200"	TATAL	Steel	Cilionie
		STD	4.500"	Drop In	Тор	1.50mm	3.95mm		Ductile Iron	Moly
						.0590"	.155"		2 4 6 4 1 6 11	
2M8525	8				2nd	1.50mm .0590"	4.20mm .165"		Grey Iron	Phosphate
					Oil	3.00mm	3.80mm	STATE OF	Steel	Chrome
					(11 lbs)	.1181"	.150"		Steel	Cironic
		STD	4.500"	Drop In	Тор	1.50mm	3.95mm		Ductile Iron	Moly
		005	4.500" 4.530"	File Fit		.0590" 1.50mm	.155" 4.15mm			,
2M8535	8	035	4.550	File Fit	2nd	.0590"	.163"		Ductile Iron	Phosphate
					Oil	3.00mm	3.80mm	MARKE	Steel	Chrome
					(11 lbs)	.1181"	.150"		otee.	Cilionic
		STD	4.500"	Drop In	Тор	1.58mm	5.33mm		Ductile Iron	Moly
		005 030	4.500" 4.530"	File Fit Drop In	<u> </u>	1/16" 1.58mm	.210" 5.20mm			,
		035	4.530"	File Fit	2nd	1/16"	.205"		Grey Iron	Phosphate
2M5589	8	060	4.560"	Drop In	Oil	4.75mm	5.08mm	TATA	Steel	Chrome
		065	4.560"	File Fit	(22 lbs)	3/16"	.200"		Steel	Cilionic
		100 105	4.600" 4.600"	Drop In File Fit						
		130	4.630"	Drop In						
		STD	4.500"	Drop In		1.58mm	5.33mm			
		005	4.500"	File Fit	Тор	1/16"	.210"		Ductile Iron	Moly
		030	4.530"	Drop In	2nd	1.58mm	5.20mm		Grey Iron	Phosphate
2M5596	8	035 060	4.530" 4.560"	File Fit	Oil	1/16" 4.75mm	.205" 3.80mm		,	·
		065	4.560"	Drop In File Fit	(15 lbs)	3/16"	.150"	TATA	Steel	Chrome
		100	4.600"	Drop In	<b>\</b>	.,				
		105	4.600"	File Fit						
		STD	4.500"	Drop In	Тор	1.58mm	5.20mm		Ductile Iron	Moly
		005	4.500"	File Fit		1/16"	.205"			
2M8588	8	035 065	4.530" 4.560"	File Fit File Fit	2nd	1.58mm 1/16"	4.83mm .190"		Ductile Iron	Phosphate
					Oil	4.75mm	5.08mm	272	Steel	Chrome
					(22 lbs)	3/16"	.200"	TATAL	Steel	Cilionie
		STD	4.500"	Drop In	Тор	1.58mm	5.20mm		Ductile Iron	Moly
		005	4.500"	File Fit	100	1/16"	.205"		Ductile II OII	141019
2M8594	8	035 065	4.530" 4.560"	File Fit File Fit	2nd	1.58mm 1/16"	4.83mm .190"		Ductile Iron	Phosphate
			7.500	THETH	Oil	4.75mm	3.80mm	2000	Chaol	Chrome
					(15 lbs)	3/16"	.150"	TATAL	Steel	Chrome



					SM	SEF	RIES	5		
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD	3.780"	Drop In	Тор	1.20mm	3.45mm		Steel	Moly
		010	3.790"	Drop In		.0472"	.136"			,
SM5565	8	020 030	3.800" 3.810"	Drop In	2nd	1.20mm .0472"	3.65mm .143"		Grey Iron	Phosphate
		040	3.820"	Drop In Drop In	Oil	3.00mm	3.80mm			
			0.000		(10 lbs)	.1181"	.150"	TARRE	Steel	Chrome
		STD	3.780"	Drop In		1.50mm	3.70mm			l l
		005	3.780"	File Fit	Тор	.0590"	.146"		Steel	Moly
		015	3.790"	File Fit	2nd	1.50mm	4.00mm		Ductile Iron	Phosphate
SM8531	8	025	3.800"	File Fit		.0590"	.158"		Ductile iron	THOSPHACE
		035	3.810"	File Fit	Oil	3.00mm	3.80mm	TARRE	Steel	Chrome
		045 065	3.820" 3.840"	File Fit File Fit	(10 lbs)	.1181"	.150"			
		STD	3.898"	Drop In	Тор	1.50mm .0590"	3.70mm		Steel	Moly
		007	3.905"	Drop In	-	1.50mm	.146" 4.15mm			
SM8555	8				2nd	.0590"	.163"		Ductile Iron	Phosphate
					Oil	3.00mm	3.80	270	Steel	Chrome
					(12 lbs)	.1181"	.150"	THE PARTY	Steer	Chronie
		STD	3.917"	Drop In	Тор	1.50mm	3.70mm		Steel	Moly
		010	3.927"	Drop In	ТОР	.0590"	.146"		Steer	ivioly
SM8560	8	020	3.937"	Drop In	2nd	1.50mm	4.15mm		Ductile Iron	Phosphate
					Oil	.0590" 3.0mm	.163" 3.80mm			
					(12 lbs)	.1181"	0.150	SARA	Steel	Chrome
		STD	4.000"	Drop In		1.09mm	3.95mm			
		030	4.000	Drop In	Тор	.0430"	.155"		Steel	Moly
		035	4.030"	File Fit	21	1.09mm	4.20mm		Constant	Dhaadhata
SM5587	8	040	4.040"	Drop In	2nd	.0430"	.165"		Grey Iron	Phosphate
		045	4.040"	File fit	Oil	3.00mm	3.80mm	TATA	Steel	Chrome
		060	4.060"	Drop In	(10 lbs)	.1181"	.150"			
		065	4.060"	File Fit						
		STD	4.000" 4.000"	Drop In	Тор	1.09mm	3.95mm		Steel	Moly
		005 025	4.000" 4.020"	File Fit File Fit	-	.0430" 1.09mm	.155" 4.15mm			
		025	4.020	File Fit	2nd	.0430"	.163"		Ductile Iron	Phosphate
SM8556	8	045	4.040"	File Fit	Oil	3.00mm	3.80mm	225-	C+ool	Chrome
		055	4.050"	File Fit	(10 lbs)	.1181"	.150"	TRADE	Steel	Cilionie
		060	4.060"	Drop In						
		065 070	4.065" 4.070"	File Fit Drop In						
							0.5-			
		STD 005	4.000" 4.000"	Drop In File Fit	Тор	1.09mm .0430"	3.95mm .155"		Steel	Moly
		005	4.000"	File Fit		1.58mm	4.63mm			
SM8527	8	035	4.030"	File Fit	2nd	1/16"	.182"		Grey Iron	Phosphate
		045	4.040"	File Fit	Oil	4.75mm	4.83mm	2727	Steel	Chrome
		065	4.060"	File Fit	(22 lbs)	3/16"	.190"	THE PARTY	31661	Cilibilie
		080	4.080"	Drop In				<u> </u>		



				;	SM	SEF	RIES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD 005	4.000" 4.000"	Drop In File Fit	Тор	1.09mm .0430"	3.95mm .155"		Steel	Moly
SM8537	8	035 045	4.030" 4.040"	File Fit File Fit	2nd	1.58mm 1/16"	4.63mm .182"		Grey Iron	Phosphate
		065	4.060"	File Fit	Oil	4.75mm	3.80mm	29030	Steel	Chrome
		080	4.080"	Drop In	(15 lbs)	3/16"	.150"	~~		
		STD 005	4.000" 4.005"	Drop In Drop In	Тор	1.50mm .0590"	3.70mm .146"		Steel	Moly
		025	4.025"	Drop In	2nd	1.50mm	4.15mm		Ductile Iron	Phosphate
		030 035	4.030" 4.035"	Drop In Drop In	Oil	.0590" 3.00mm	.163" 3.80mm			-
		040	4.033 4.040"	Drop In	(13 lbs)	.1181"	.150"	SEE SEE	Steel	Chrome
		045	4.045"	Drop In	(13 103)	.1101	.130			
SM8565	8	055	4.055"	Drop In						
		060	4.060"	Drop In						
		065	4.065"	Drop In						
		070	4.070"	Drop In						
		080	4.080"	Drop In						
		100	4.100"	Drop In						
		120	4.120"	Drop In						
		STD	4.125"	Drop In		1.09mm	3.95mm			
		005	4.125"	File Fit	Тор	.0430"	.155"		Steel	Moly
CN4EEO3		020	4.145"	Drop In	2	1.09mm	4.20mm		Cuarrilua u	Dhaanbata
SM5593	8	060	4.185"	Drop In	2nd	.0430"	.165"		Grey Iron	Phosphate
					Oil	3.00mm	3.80mm	TARRE	Steel	Chrome
					(10 lbs)	.1181"	.150"		Steel	Cilionie
		STD	4.125"	Drop In		1.09mm	3.95mm		c. I	
		005	4.125"	File Fit	Тор	.0430"	.155"		Steel	Moly
		010	4.135"	Drop In	2nd	1.09mm	4.20mm		Grey Iron	Phosphate
SM8550	8	015	4.135"	File Fit	ZIIU	.0430"	.165"		Grey Iron	Pilospilate
		025	4.145"	File Fit	Oil	3.00mm	3.80mm	TARRE	Steel	Chrome
		035	4.155"	File Fit	(10 lbs)	.1181"	.150"		3.000.	ciii ciii c
		045	4.165"	File Fit						
		STD	4.125"	Drop In	Тор	1.09mm	3.95mm		Steel	Moly
		005	4.125"	File Fit		.0430"	.155"		5.551	
		020	4.145"	Drop In	2nd	1.58mm	4.63mm		Grey Iron	Phosphate
CN 40 F 47		025	4.145"	File Fit		1/16"	.182"		<u>'</u>	
SM8547	8	030	4.155"	Drop In	Oil	4.75mm	4.83mm	TARAGE	Steel	Chrome
		035 040	4.155" 4.165"	File Fit Drop In	(22 lbs)	3/16"	.190"			I
		040	4.165 4.165"	File Fit						
		060	4.105	Drop In						
						1.00:	2.05			
		STD 005	4.125" 4.125"	Drop In File Fit	Тор	1.09mm .0430"	3.95mm .155"		Steel	Moly
		030	4.125 4.155"	Drop In		1.58mm	4.63mm			$\vdash$
SM8557	8	035	4.155 4.155"	File Fit	2nd	1/16"	.182"		Grey Iron	Phosphate
		040	4.165"	Drop In	Oil	4.75mm	3.80mm			
		045	4.165"	File Fit	(15 lbs)	3/16"	.150"	DE LA COLOR	Steel	Chrome
		060	4.185"	Drop In	<b>1</b> ' '					
						•	•			



				,	SM	SEF	RIES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD 035	4.250" 4.280"	Drop In File Fit	Тор	1.09mm .0430"	3.95mm .155"		Steel	Moly
SM5597	8				2nd	1.09mm .0430"	4.15mm .163"		Ductile Iron	Phosphate
					Oil (11 lbs)	3.00mm .1181"	3.80mm .150"	TRACE	Steel	Chrome
		STD 035	4.250" 4.280"	Drop In File Fit	Тор	1.09mm .0430"	3.95mm .155"		Steel	Moly
SM8567	8	065	4.310"	File Fit	2nd	1.58mm 1/16"	4.63mm .182"		Grey Iron	Phosphate
					Oil (22 lbs)	4.75mm 3/16"	4.83mm .190"	SERVE	Steel	Chrome
		STD 005	4.500" 4.500"	Drop In File Fit	Тор	1.09mm .0430"	3.95mm .155"		Steel	Moly
SM8582	8	035 105	4.530" 4.600"	File Fit File Fit	2nd	1.09mm .0430"	4.15mm .163"		Ductile Iron	Phosphate
		130	4.625"	File Fit	Oil (13 lbs)	3.00mm .1181"	3.80mm .150"	TRANS	Steel	Chrome
		STD 005	4.500" 4.500"	Drop In File Fit	Тор	1.09mm .0430"	3.95mm .155"		Steel	Moly
SM8592	8	035	4.530"	File Fit	2nd	1.58mm 1/16"	4.75 .187"		Ductile Iron	Phosphate
					Oil (13 lbs)	3.00mm .1181"	3.80mm .150"	1990	Steel	Chrome



					SN	SEF	RIES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		005 025	3.551" 3.571"	File Fit File Fit	Тор	1.50mm .0590"	3.10mm .122"		Steel	Nitride
SN5582	8	035 045	3.581" 3.591"	File Fit File Fit	2nd	1.50mm .0590"	3.88mm .153"		Grey Iron	Phosphate
					Oil (10 lbs)	3.00mm .1181"	3.80mm .150"	22.22	Steel	Chrome
		STD 005	3.780" 3.785"	Drop In Drop In	Тор	1.20mm .0472"	3.70mm .145"		Steel	Nitride
SN9030	8	010 020	3.790" 3.800"	Drop In Drop In	2nd	1.20mm .0472"	3.75mm .147"		Ductile Iron	Phosphate
		030 040	3.810" 3.820"	Drop In Drop In	Oil (10 lbs)	3.00mm .1181"	3.80mm .150"	TRADE	Steel	Chrome
		STD 020	3.780" 3.800"	Drop In Drop In	Тор	1.50mm .0590"	3.50mm .138"		Steel	Nitride
SN8531	8	030	3.810"	Drop In	2nd	1.50mm .0590"	3.50mm .138"		Ductile Iron	Phosphate
					Oil (10 lbs)	3.00mm .1181"	3.80mm .150"	THE REAL PROPERTY.	Steel	Chrome
		STD 007	3.898" 3.905"	Drop In Drop In	Тор	1.20mm .0472"	3.70mm .145"		Steel	Nitride
SN9035	8				2nd	1.20mm .0472"	3.75mm .147"		Ductile Iron	Phosphate
					Oil (12 lbs)	3.00mm .1181"	3.80mm .150"	THE REAL PROPERTY.	Steel	Chrome
		STD	3.898"	Drop In	_	1.20mm	3.70mm		C: I	
		007	3.905"	Drop In	Тор	.0472"	.145"		Steel	Nitride
SN9055	8				2nd	1.50mm .0590"	4.15mm .163"		Ductile Iron	Phosphate
					Oil (12 lbs)	3.00mm .1181"	3.80mm .150"	THE REAL PROPERTY.	Steel	Chrome
		STD 010	3.917" 3.927"	Drop In Drop In	Тор	1.20mm .0472"	3.70mm .145"		Steel	Nitride
SN9040	8	020	3.937"	Drop In	2nd	1.20mm .0472"	3.75mm .147"		Ductile Iron	Phosphate
					Oil (12 lbs)	3.00mm .1181"	3.80mm .150"	TO THE REAL PROPERTY.	Steel	Chrome
		STD 010	3.917" 3.927"	Drop In Drop In	Тор	1.20mm .0472"	3.70mm .145"		Steel	Nitride
SN9060	8	020	3.937"	Drop In	2nd	1.50mm .0590"	4.15mm .163"		Ductile Iron	Phosphate
					Oil (12 lbs)	3.00mm .1181"	3.80mm .150"	TO THE	Steel	Chrome



					SN	SEF	RIES			
Set No	Cyl	Suffix	Bore	Note	Groove	Width	Wall	Shape	Material	Coating
		STD	4.000"	Drop In	Тор	1.20mm	3.70mm		Steel	Nitride
		005	4.005"	Drop In		.0472"	.145"		01001	
		010	4.010"	Drop In	2nd	1.20mm	3.75mm		Ductile Iron	Phosphate
		015	4.015"	Drop In		.0472"	.147"			
		020	4.020"	Drop In	Oil	3.00mm	3.80mm	TREE	Steel	Chrome
		025 030	4.025" 4.030"	Drop In Drop In	(13 lbs)	.1181"	.150"			
		030	4.030	Drop In						
		040	4.033 4.040"	Drop In						
		045	4.045"	Drop In						
		050	4.050"	Drop In						
SN9045	8	055	4.055"	Drop In						
		060	4.060"	Drop In						
		065	4.065"	Drop In						
		070	4.070"	Drop In						
		075	4.075"	Drop In						
		080	4.080"	Drop In						
		085	4.085"	Drop In						
		090	4.090"	Drop In						
		095	4.095"	Drop In						
		100	4.100"	Drop In						
		120	4.120"	Drop In						
		STD	4.000"	Drop In	Тор	1.20mm	3.70mm		Steel	Nitride
		005	4.005"	Drop In	ТОР	.0472"	.145"		Steel	Millide
		025	4.025"	Drop In	2nd	1.50mm	4.15mm		Ductile Iron	Phosphate
		030	4.030"	Drop In		.0590"	.163"		2 4 6 4 1 6 11	
		035	4.035"	Drop In	Oil	3.00mm	3.80mm	THE REAL PROPERTY.	Steel	Chrome
		040	4.040"	Drop In	(13 lbs)	.1181"	.150"			
SN9065	8	045	4.045"	Drop In						
		055	4.055"	Drop In						
		060 065	4.060" 4.065"	Drop In Drop In						
		070	4.003	Drop In						
		080	4.080"	Drop In						
		100	4.100"	Drop In						
		120	4.120"	Drop In						
		STD	4.125"	Drop In		1.20mm	3.70mm			
		002	4.125 4.127"	File Fit	Тор	.0472"	.145"		Steel	Nitride
		010	4.135"	Drop In		1.20mm	3.75mm			
		012	4.137"	File Fit	2nd	.0472"	.147"		Ductile Iron	Phosphate
		020	4.145"	Drop In	Oil	3.00mm	3.80mm	270	Charl	Chrains
CNIOOEO	o	022	4.147"	File Fit	(13 lbs)	.1181"	.150"	TO THE	Steel	Chrome
SN9050	8	030	4.155"	Drop In						
		032	4.157"	File Fit						
		040	4.165"	Drop In						
		042	4.167"	File Fit						
		060	4.185"	Drop In						
		062	4.187"	File Fit	L					





PERFORMANCE—
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