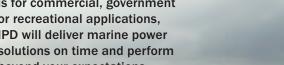


in over 110 countries. IPD's customer service representatives are among the most knowledgeable in the industry and available to answer questions, assist with quotes and orders and provide technical support. We also offer online technical support, online ordering through IPDNet and marketing service and field support through our experienced Regional Managers to help build our markets together.



IPD will deliver marine power solutions on time and perform beyond your expectations.





VOLVO® D12 Series

CATERPILLAR®

and K Series (19L, 38L, 50L)

DETROIT DIESEL® 60 Series

WAUKESHA® VHP Series (7042/7044)

23231 Normandie Ave. Torrance, CA 90501 USA

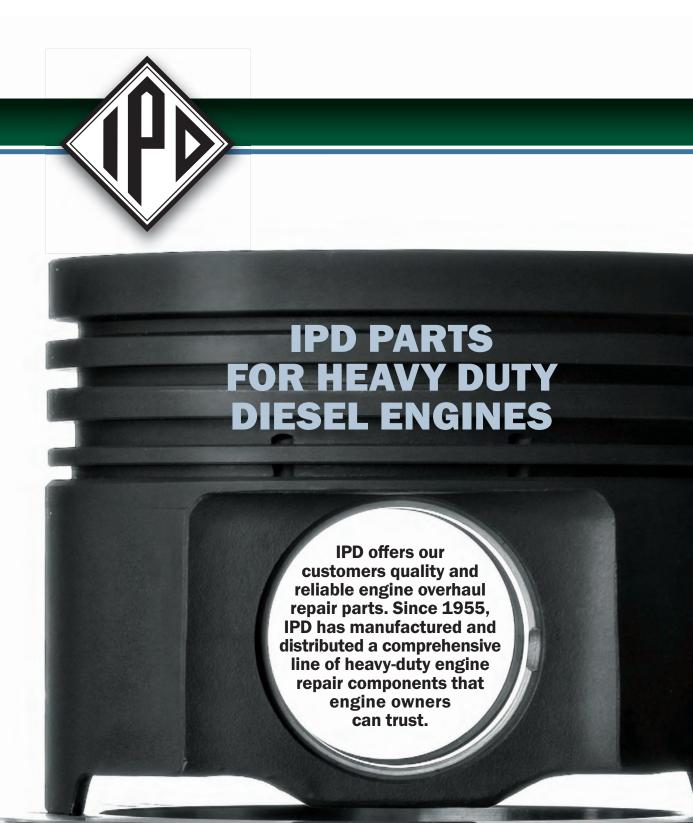
Caterpillar®, Cummins®, Detroit Diesel®, Volvo® and Waukesha® are trademarks of their respective owners

IPD Parts for Diesel and Spark-Ignited Engine Applications

C-Series - C7, C9, C10, C12, C13, C15, C18, C27, C32

ISX / QSX (dual cam), ISX15 / QSX15 (single cam),

300 Series, 3000, 3100, 3200, 3300, 3400, 3500, 3600



ISO 9001: 2015 Certified

POWER GENERATION IPD parts have been selected by demanding power generation facilities for decades and have proven to provide reliable performance and savings that help reduce operating costs and improve profita

CONSTRUCTION AND MINING

Cost per hour is the metric that IPD can help you lower by offering cost effective reliability to ensure productivity and durability.

KEEP YOUR DIESEL

Diesel engines are the

most common power source globally today. Whether the diesel engine is used in construction equipment, on-highway trucks or power-generating facilities, you cannot risk downtime associated with engine failure and you cannot overspend and risk becoming uncompetitive. You need quality engine replacement parts like IPD's that are engineered specifically for heavy-duty operations, are readily available all over the world, and will save you money while doing it.

SAVINGS WITHOUT RISK

IPD quality parts are all backed by an industryleading 2-year warranty (unlimited miles) for on-highway diesel applications and 1 year/3,600 hours for diesel applications.

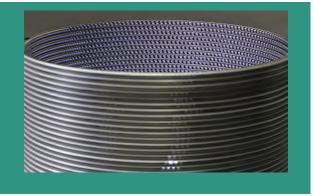
Some suppliers are simply "repackagers", selling parts from a wide range of manufacturers. IPD maintains strict quality assurance processes. IPD parts are thoroughly re-engineered from OE parts to ensure that the highest level specifications are developed and maintained. IPD has in-house design, engineering and quality assurance teams. We properly conduct metallurgical testing and analysis with internal and external laboratories. We are experts in metrology and our entire company is ISO 9001: 2015 certified.

PARTS ARE NOT JUST PARTS

IPD offers the highest level of quality engine repair parts for diesel engines.

IPD PISTON RINGS

IPD piston ring sets are application-specific for maximum performance and durability. Premium materials and processes are utilized for improved hardness, friction reduction, resistance to corrosion and wear/scuffing, optimal fuel consumption and emissions performance. IPD developed innovative tri-fold/marked packaging sleeves to protect rings during shipping and handling and indicate each ring position to minimize installation errors.





IPD bearings incorporate materials and coatings designed to ASTM (American Society for Testing & Materials) standards, with such high-quality materials as SAE carbon steel and copper aluminum alloys for long life and reliable performance. IPD developed "grooved" design connecting rod bearings for the Caterpillar 3400 and C15 series to improve cavitation resistance in selected applications. IPD also utilizes special application-specific construction specifications, such as an advanced 5-layer design with optimized copper, lead and tin microstructure materials.



PISTONS AND PINS

IPD pistons are engineered and made at IPD's Headquarters in Torrance, California, USA. IPD offers both old and newer model pistons including:

- 1-piece aluminum with nickel alloy ring carriers and extra bond checking for improved reliability
- 2-piece articulated pistons with steel crowns and aluminum skirt
- 1-piece steel piston where applications demand it
- 2-piece friction welded piston for high cylinder pressure applications
- IPD piston pins are case hardened for strength and durability. They are engineered for high tensile and yield strength and use high quality material specifications like nickel chromium and molybdenum alloy steel.

	CATERPILLAR®													CUMMINS®		DETROIT DIESEL®	VOLVO ®	
ENGINES	300 Series	3064 3066	3116/ 3126	3200 Series	3300 Series	3400 Series	3500 Series	С7	C9	C10 C12	C13	C15 C15 Acert	C27	C18 C32	ISX / ISX15 QSX / QSX15	K19 / K38 K50	60 Series	D12 Series
ENGINE-OVERHAUL KITS																		
Engine Kits - In Frame	*		-	-	-	-	*	-	*	*	*	= *	*	*	-	*	-	•
Engine Kits - Out of Frame	*		-	-	-	-	*	-	*	*	■*	*	*	■*	•	*	-	•
ENGINE-PARTS (MISC.)																		
Camshafts																		
Crankshafts																		
Cylinder Sleeves		-	-														-	
Cylinder Heads					-													
Cylinder Kits / Piston Liner Groups	-				-	-	-											•
Cylinder Liners / Liner Kits / Inserts	-				-	-	-		-	-						•		•
Piston Rings / Sets, Pins, Retainers		-	-	-	-		-	-	-			-		-		•	-	•
Pistons / Piston Kits	-	-	-	-	-	-			-	-		-				•	-	•
Thermostats / Regulators		-	-	-	-		-		-			-		-		•	-	•
Vibration Damper					-	-												
ENGINE-GASKETS / SETS																		
Gasket Sets - IPD Style Sets	-	-	-	-	-	-	-	-									-	•
Gasket Sets - OEM Style Sets												=			•	•	-	•
Misc Gaskets & O-Rings		-										-			•	•		•
Oil & Crank Seals	-	-	-	-	-				-	-		-			•	•	-	•
Gaskets	-	-	-	-	-													
Gaskets, Cylinder Head	-	-	-	-	-										•		-	•
ENGINE-VALVETRAIN																		
Guides	-	-	-	-	-	-	-	-	-	-	-	-		-		•		
Injector Sleeves															•		-	
Rotocoils / Spring Retainer	-		-		-	-			-	-		-				•	-	•
Seats / Inserts		-			-							-			•	•		
Springs / Spring Seats	-	-	-	-	-	-			-	-		-				•	-	•
Valves / Valve Kits & Locks															•	•		•
ENGINE-BEARINGS/BUSHINGS																		
Camshaft	-	-	-		-	-	-	-	-	-	-	-		-		•		•
Main	-	-	-	-	-	-	-		-	-		-		-		•	-	•
Connecting Rod	-	-	-	-	-	-											-	•
Thrust		-	-		-		-		-			-		-		•	-	•
Misc. Bushings	-		-	-	-	-	-		-	-		-		-		•	-	
FUEL SYSTEM																		
Fuel Injectors / Nozzles	-		-		-	-	-											
Pumps, Transfer / Priming / Injection	-				-		-											
PUMPS & COOLERS																		
Oil Pumps, Engine					-	-		-	-	-	-	-	-	-		•	-	
Oil Coolers, Engine	-				-	-	-		-	-		-				•	-	
Oil Coolers, Transmission					-	-	-											
Water Pumps / Water Pump Idlers			-	=	-		-										-	•
Water Pump Repair Kits	-			-	-	-	-		-	-		-				•		
Water Pump Parts	-			-	-				-	-		-				•		
INSTALLATION PARTS																		
Bolts (Head, Con, Rod, and/or Misc.)			-		-	-	-	-	-	-	-	-	-	-		•		•
Spacer Plates					-	-												
Parts available for engine overhaul										Parts availability s are trademarks of	ubject to change. (their respective ov	Consult with IPD Cus vners.	stomer Service fo	r updated parts ava	ilability and application in	formation. Caterpillar®, (Cummins®, Volvo® and Detroit Di	iesel*



VALVETRAIN:

IPD valvetrain is preferred by machine shops worldwide since IPD only uses superior materials to prevent corrosion and wear resistance.

- Valves: friction welded in optimized locations to ensure superior strength by application
- Valve seat: Precision engineered seats analyzed for seating angle accuracy as well as various other crucial dimensions
- Springs: Evaluated for spring rates (opening and closing) and compression force ensuring strength, hardness, corrosion resistance and durability
- **Guides:** Feature geometric groove patterns and special coatings like graphite phosphate for enhanced lubricity and hardness

ENGINE OVERHAUL KITS

IPD also offers complete Engine Overhaul Kits – in-frame and out-of-frame kits for specific popular applications – providing all the components needed for a complete overhaul. We also have a range of miscellaneous hardware components available like bolts and rocker arms, as well as water pumps, oil pumps, pump rebuild kits and oil coolers for popular engines.

CYLINDER LINERS:

Many years ago, IPD pioneered the technology of induction-hardening on cylinder liners for heavy-duty applications and continues this process on all applicable IPD liners today. More recently we engineered a unique steel construction cylinder liner design for Caterpillar C18 and C32 engines which added cylinder strength.

