INTRODUCTION

PISTONS

TSC offers a full range of mud pump pistons for both triplex and duplex pumps. They are:

- · Bonded urethane pistons.
- Bonded rubber pistons.
- Replaceable rubber pistons.
- Endurance Premium Bonded Piston.



BONDED URETHANE PISTON

These pistons are constructed of double durometer urethane, bonded to a solid metal hub. Double durometer urethane is designed to provide optimum performance in oil-based mud and high drilling pressures.

Features

- Rated for all drilling operations.
- Maximum operating temperature is 180 °F.
- High pressure mud pump service.
- Extended service life.



11

50

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INTRODUCTION

N'DURALL PREMIUM BONDED PISTON

TSC's "N'durall" mud pump piston improves drilling contractor economics through advances in technology, improved process control and increased drilling penetration rates.

Chemistry

Manufactured from advanced polymer compounds, the advances in chemistry ultimately provide superior mechanical values and chemical resistance. The increased mechanical values provide resistance to reciprocating pump psitons biggest enemies listed below.

- Heat.
- Abrasion.
- Extrusion.

The advanced polymer compound provides strength to withstand chemical attack from additives used in today's oil, synthetic and water based drilling fluids. The compound also has improves abrasion resistance from drilling solids suspended in drilling muds and excels in high temperature performance capable of operating in fluid temperature up to 300°F.

Improved Process Control

The "N'durall" carries stamped batch numbers on the piston body for use in monitoring manufacturing dates and as an aid in rotating shelf stock.

Design

The single durometer design and open mold casting contribute to overall performance and improved economics.

Machining

CNC machining of steel piston heads yields close tolerances for improved performance.

Applications

- High Pressure Drilling.
- Elevated Mud Temperature.
- Synthetic Drilling Fluid.
- Ceramic and Zirconia Liners.
- Chrome Sleeved Liners.



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INTRODUCTION

BONDED RUBBER PISTON

TSC pistons are constructed of nitrile rubber bonded to a solid metal hub. The oil resistant rubber is designed to provide optimum performance in oil base or water base mud and high drilling pressures.

Features

- High tensile strength.
- Rated for all drilling operations.
- Maximum operating temperature is 250°F.
- Extended service life.



REPLACEABLE RUBBER PISTON

TSC replaceable rubber pistons are made with nitrile rubber to resist extrusion and abrasion. These pistons are fully interchangeable with most other manufactures products. Available sizes range from 3" through 7-1/2" and series are A, B, K and L.

Features

- High tensile strength.
- Rated for all drilling operations.
- Maximum operating temperature is 250°F.
- Extended service life.





6-3/4 x 8

37

TSC

FLUID END EXPENDABLES

F-650

EMSCO

		LINER GASKETS		PIS	rons		PISTON RUBBER	
PART NUMBE		PART NUMBER	URETHANE BONDED	RUBBER BONDED	N'DURALL BONDED	REPLACEABLE RUBBER	PART NUMBER	
TS-0146-40HP		G-281 *	LLU-40-K15	LL-40-K15	HPW-40-K15	I-40-K15	TM-40-KR	
TS-0146-44HP		G-281 *	LLU-44-B15	LL-44-B15	HPW-44-B15	I-44-B15	TM-44-BR	
TS-0146-50HP		G-281 *	LLU-50-B15	LL-50-B15	HPW-50-B15	I-50-B15	TM-50-BR	
TS-0146-54HP		G-281 *	LLU-54-B15	LL-54-B15	HPW-54-B15	I-54-B15	TM-54-BR	
TS-0146-56HP		G-281 *	LLU-56-B15	LL-56-B15	HPW-56-B15	I-56-B15	TM-56-BR	
TS-0146-60HP		G-281 *	LLU-60-B15	LL-60-B15	HPW-60-B15	I-60-B15	TM-60-BR	
TS-0146-62HP		G-281 *	LLU-62-L15	LL-62-L15	HPW-62-L15	I-62-L15	TM-62-LR	
TS-0146-64HP		G-281 *	LLU-64-L15	LL-64-L15	HPW-64-L15	I-64-L15	TM-64-LR	
TS-0146-6	66Cr	G-281 *	LLU-66-L15	LL-66-L15	HPW-66-L15	I-66-L15	TM-66-LR	
VALVES, SEATS, SPRINGS GASKETS								
4 WEB DESIGN		3 WEB DESIGN	FULL OPEN (1)	FULL OPEN (2)			PART NUMBER	
TS-5-M5B5		-	-	TS-5-V1	VALVE COVER GASKET		G-733 *	
TS-5-DDB1		-	-	TS-5-S1	CYLINDER HEAD GASKET		G-281 *	
TS-5710-111		-	-	TS-5710-111	WEAR PLATE GASKET		N/A	
e) TS-5-WI		-	-	TS-5-FI	EXTENSION ROD SEAL		-	
-		-	-	-	EXTENSION ROD BAFFLE		-	
PISTON ROD & EXTENSION ROD								
RUU I		THREADED TYPE PISTON ROD	CLAMP TYPE PISTON ROD	SUB ROD	THREADED TYPE EXTENSION ROD		CLAMP TYPE EXTENSION ROD	
N/A TM	/I-NUT	N/A	TM-151	N/A	N/A		TMF65-01-06	
FLUID END MODULE								
FLUID END MODULE STUDDED				MODULE SEAL SET		STUDS & NUTS SET		
TS-6318-0151-00				EALKIT	TMF05-STUDSET			
	PART NUMBE TS-0146-4 TS-0146-5 TS-0146-5 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-6 TS-0146-7 TS-5-M5 TS-5-DE TS-5-DE TS-5-DE TS-5-VE	PART NUMBER TS-0146-40HP TS-0146-50HP TS-0146-50HP TS-0146-50HP TS-0146-60HP TS-0146-62HP TS-0146-62HP TS-0146-66Cr TS-0146-56HP TS-0146-64HP TS-0146-64HP TS-0146-56HP TS-0146-64HP TS-0146-56HP TS-0146-54HP TS-0146-64HP TS-0146-56HP TS-0146-56HP TS-0146-64HP TS-0146-56HP TS-5-M5B5 TS-5-M5B5 TS-5-VUI TS-5-WI TS-5-WI FSTUD N/A PISTON NUA	LINERS GASKETS PART PART NUMBER 9ART TS-0146-40HP G-281* TS-0146-40HP G-281* TS-0146-50HP G-281* TS-0146-50HP G-281* TS-0146-50HP G-281* TS-0146-50HP G-281* TS-0146-60HP G-281* TS-0146-60HP G-281* TS-0146-62HP G-281* TS-0146-64HP G-281* TS-0146-66Cr G-281* TS-0146-66Cr G-281* TS-0146-66Cr G-281* TS-5-NDB1 G-281* TS-5-DDB1 - TS-5-VVI - N/A TM-NUT<	LINERS GASKETS PART NUMBER PART NUMBER URETHANE BONDED TS-0146-40HP G-281* LLU-40-K15 TS-0146-44HP G-281* LLU-40-K15 TS-0146-50HP G-281* LLU-50-B15 TS-0146-56HP G-281* LLU-56-B15 TS-0146-60HP G-281* LLU-60-B15 TS-0146-60HP G-281* LLU-62-L15 TS-0146-62HP G-281* LLU-64-L15 TS-0146-66CP G-281* LLU-64-L15 TS-0146-66CP G-281* LLU-66-L15 TS-0146-66CP G-281* LLU-66-L15 TS-0146-66CP G-281* LLU-66-L15 TS-0145-50B1 G-281* LLU-66-L15 TS-5-DB1 SaweB DESIGN FUL OPEN (1) TS-5-VI J. - TS-5-WI J. - TS-5-WI J. - TS-5-WI J. - ROD TM-NUT N/A N/A TM-NUT TM-151	LINERS GASKETS PIST PART NUMBER PART NUMBER URETHANE BONDED RUBBER BONDED TS-0146-40HP G-281* LLU-40-K15 LL-40-K15 TS-0146-40HP G-281* LLU-40-K15 LL-40-K15 TS-0146-50HP G-281* LLU-50-B15 LL-50-B15 TS-0146-50HP G-281* LLU-64-B15 LL-50-B15 TS-0146-50HP G-281* LLU-60-B15 LL-60-B15 TS-0146-60HP G-281* LLU-61-L15 LL-60-L15 TS-0146-60HP G-281* LLU-64-L15 LL-64-L15 TS-0146-60HP G-281* LLU-66-L15 LL-64-L15 TS-0146-60Cr G-281* LLU-66-L15 LL-60-L15 TS-0146-60Cr G-281* LLU-66-L15 LL-60-L15 TS-5-M5B5 - . TS-5-V1 TS-5-M5B5 - . TS-5-V1 TS-5-710-111 - . TS-5710-111 TS-5-WI - . . . PISTON ROD STUD PISTON ROD	LINERS GASKETS PISTONS PART NUMBER PART NUMBER PART NUMBER VRETHANE BONDED RUBBER BONDED N'DURALL BONDED TS-0146-40HP G-281* LLU-40-K15 LL-40-K15 HPW-40-K15 TS-0146-50HP G-281* LLU-4-B15 LL-44-B15 HPW-50-B15 TS-0146-50HP G-281* LLU-50-B15 LL-50-B15 HPW-50-B15 TS-0146-56HP G-281* LLU-56-B15 LL-56-B15 HPW-56-B15 TS-0146-60HP G-281* LLU-60-B15 LL-60-B15 HPW-60-B15 TS-0146-60HP G-281* LLU-60-B15 LL-60-L15 HPW-60-L15 TS-0146-66Cr G-281* LU-66-L15 LL-60-L15 HPW-66-L15 TS-0146-66Cr G-281* LU-66-L15 LL-60-L15 HPW-66-L15 TS-0146-66Cr G-281* LU-66-L15 LL-60-L15 HPW-66-L15 TS-5-M5E5 - - TS-5-V1 VALVE COV TS-5-T0-111 - - TS-5-T0-111 WEAR PLA TS-5710-111 - -	LINERS GASKETS PISTONS PART NUMBER PART NUMBER VRETHANE BONDED RUBBER BONDED N'OURALL BONDED REPLACEABLE RUBBER TS-0146-40HP G-281* LLU-40-K15 HPW-40-K15 I-40-K15 TS-0146-40HP G-281* LLU-40-K15 LL-40-K15 HPW-40-K15 I-40-K15 TS-0146-60HP G-281* LLU-50-B15 LL-50-B15 HPW-50-B15 I-50-B15 TS-0146-50HP G-281* LLU-60-B15 LL-60-B15 HPW-56-B15 I-56-B15 TS-0146-60HP G-281* LLU-60-B15 LL-60-B15 HPW-60-B15 I-60-B15 TS-0146-60HP G-281* LLU-60-L15 LL-60-L15 HPW-60-B15 I-60-L15 TS-0146-60Cr G-281* LLU-60-L15 LL-60-L15 HPW-60-L15 I-60-L15 TS-0146-60Cr G-281* LLU-60-L15 LL-60-L15 HPW-60-L15 I-60-L15 TS-0146-60Cr G-281* LLU-60-L15 LL-60-L15 HPW-60-L15 I-60-L15 TS-510-ES SUB SUB CYLINDER HEAD GASKET S	

TSC does not warrant or represent that any of such information is accurate, or that any products listed are compatible with each other. Any deviations from the OEM products should be verified as to compatibility.

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