

# MANTL VALUE-ADD SERIES

IN THIS SERIES, WE COMPARE THE USE OF NEW ENGINES IN HYDRAULIC POWER UNIT BUILDS VERSUS REFURBISHED ENGINES. MANTL HAS EXTENSIVE EXPERIENCE COMPARING BOTH BUILD TYPES IN SIDE BY SIDE APPLICATIONS WHICH CAN PROVIDE INSIGHT TO USERS WHO ARE TRYING TO DETERMINE WHICH ENGINE TYPE WILL FIT THEIR NEEDS.

## HYDRAULIC POWER UNITS - ENGINES

### NEW ENGINE

- **HIGHER INITIAL COST**
- **COMPLETELY NEW INTERNAL & EXTERNAL COMPONENTS**
- **PROVEN MACHINING TECHNIQUES**
- **HIGH LEVEL ENGINEERING & QUALITY CONTROL DURING DEVELOPMENT & ASSEMBLY**
- **AVERAGE LIFECYCLE 30,000 - 40,000hrs**
- **PACKAGED WITH NEW PARTS TO COMPLETE ENGINE BUILD**
- **HIGHER RELIABILITY THAT CAN REDUCE OPERATIONAL COSTS AND REDUCE DOWNTIME**
- **MANUFACTURER'S WARRANTY**



### REFURBISHED ENGINE

- **LOWER INITIAL COST**
- **REMANUFACTURER ENGINEERING, QUALITY CONTROL AND WORKMANSHIP CONCERNS PRESENT THEMSELVES ONCE THESE UNITS HAVE BEEN RUNNING IN THE FIELD (OIL BURNING, LOSS OF COMPRESSION DUE TO VALVE MACHINING PROCESSES, CYLINDER BORING DEFECTS, ETC.)**
- **INTERNAL REPLACEMENT COMPONENTS PREMATURE FAILURES HAVE TAKEN PLACE. COMPONENTS SUCH AS HYDRAULIC LIFTERS, CAMSHAFT, TIMING CHAIN, OIL PUMP AND MORE HAVE BEEN OUTSOURCED FROM OVERSEAS AND DO NOT HAVE THE SAME QUALITY STANDARDS AS DOMESTIC MANUFACTURERS.**
- **TYPICALLY ALL REFURBISHED ENGINES HAVE BEEN BORED OUT. MULTIPLE COMPONENTS ARE CLEANED AND REUSED INTERNALLY: PISTONS, CONNECTING RODS, CRANKSHAFT ROTATING ASSEMBLIES, ROCKER ARMS, PUSH RODS ETC. COMPONENTS MAY HAVE BEEN INSPECTED AND APPROVED FOR REUSE, BUT THEY WILL HAVE A REDUCED FATIGUE LIFECYCLE. MANY ENGINE THAT ARE BORED OUT FOR REUSE CANNOT BE BORED OUT AGAIN, AS THEY HAVE REACHED THEIR MAXIMUM RECOMMENDED OVERSIZE DIMENSION AND ONCE FAILURES OCCUR THE ENGINE MUST BE SCRAPPED ALTOGETHER.**
- **AVERAGE LIFECYCLE 15,000 - 20,000hrs**
- **REDUCED WARRANTY**

IT IS RECOMMENDED BY MANTL THAT CONSIDERATION BEYOND INITIAL COST SHOULD BE TAKEN WHEN DECIDING TO USE NEW OR REFURBISHED COMPONENTS. CRITICAL WELL APPLICATIONS, POWER REQUIREMENTS, REMOTE SITE LOCATIONS, REQUIRED RELIABILITY, AND PRODUCTION SHOULD ALL BE CONSIDERED WHEN MAKING THE CHOICE BETWEEN NEW AND REFURBISHED/REMANUFACTURED EQUIPMENT.

