



CASE STUDY: MIRACLE BOY ON HYDRAULICS

CUSTOMER

Customer "A" and "B" - automotive test facilities

APPLICATION

Vibration and durability testing

This is a good case study showing that the MB pays off on both good and bad oil filtration systems.

CUSTOMER A

Automotive test facility

STARTING CONDITIONS

- Poor oil cleanliness
- Bi-monthly filter changes
- Frequent servo valve repairs
- Yearly oil tank changes
- Pump failures

APPLICATION

Hydraulic actuators

TESTING NOTES

- 15 minute test of the worst oil they could find
- Free water was extremely high and taken down to 200 ppm immediately
- MB returned the oil to below ISO standards
- Customer is now installing the MB into their new pump system

STARTING OIL TEST RESULTS	MB OIL TESTING RESULTS
Viscosity: 55.5 cSt	Viscosity: 55.3 cSt
Water: 600 ppm	Water: 200 ppm
Particles: Estimated results due to high water >2 micron = 3000 ppm >5 micron = 900 ppm >10 micron = 300 ppm >15 micron = 200 ppm >25 micron = 100 ppm	Particles: >2 micron = 239 ppm >5 micron = 48 ppm >10 micron = 15 ppm >15 micron = 8 ppm >25 micron = 4 ppm
ISO Code: 19/17/15	ISO Code: 15/13/10
COST SAVINGS: \$25-30K	

CUSTOMER B

Automotive test facility

STARTING CONDITIONS

- Good oil cleanliness
- Bi-monthly filter changes
- Water filter changes twice a year
- Average servo repairs per year
- Minimal operation problems

APPLICATION

Hydraulic actuators

TESTING NOTES

- 15 minute test
- Even with high quality 3 micron filtration the MB filter still improved the oil by a whole ISO grade
- The water was high and was emulsified or dissolved since the MB did not remove it right away. It would lower over a longer period of time. 300 ppm of water is documented to be damaging.
- The customer was very impressed with the 2 micron filtration results to take out the silt that damages his valves

STARTING OIL TEST RESULTS	MB OIL TESTING RESULTS
Viscosity: 43.5 cSt	Viscosity: 41.8 cSt
Water: 300 ppm	Water: 300 ppm
Particles: >2 micron = 385 ppm >5 micron = 71 ppm >10 micron = 16 ppm >15 micron = 8 ppm >25 micron = 2 ppm	Particles: >2 micron = 80 ppm >5 micron = 36 ppm >10 micron = 19 ppm >15 micron = 12 ppm >25 micron = 6 ppm
ISO Code: 16/13/10	ISO Code: 14/12/10
COST SAVINGS: \$15-20K	