

AUTOMOTIVE (USA)

ASSEMBLY/POWERHOUSE

Castrol Anvol® SWX 68*

ANNUAL SAVINGS: \$5,590

THE SITUATION

- Water glycol was used as fire resistant hydraulic fluid in the Powerhouse Reeco Senior #1,2 and Reeco Junior #1,2 hydraulic units at one of the largest automotive assembly plants in USA.
- Water glycol based fluids have relatively low boiling and cloud points--200°F. Viscosity measures are directly related to the water content. 1% of water evaporation cause 8 SUS viscosity drop.
- Total oil capacity is 220 gallons.
- Labor devoted for parts replacement 96 hours per year.
- Labor devoted to maintain nominal oil viscosity was min 104 hours.
- Maintenance labor cost is approximately \$35 per hour.
- Lubricant disposal cost is \$3.00 per gallon.

BEFORE CASTROL

- Constant water evaporation caused a lot of problems: equipment running with too low or too high viscosity, which reduces its performance and life; significant amount of manpower required to keep oil in the normal condition. Too low oil viscosity causes reduction of the fire protection properties and too high oil viscosity causes sludge and varnishes formation.
- Oil samples from four hydraulic systems were taken on weekly bases to maintain correct viscosity and goal still was not achieved.
- Oil changed annually according to schedule.

AFTER CASTROL

- Changeover cycle increased minimum of two times.
- Maintenance labor and disposal costs reduced.
- Seal life improved by keeping seals closer to their original condition for far longer than current hydraulic oil.

THE SOLUTION

- After introduction of Castrol Anvol SWX 68, changeover cycle was increased over two times. Combined with equipment inspections, an oil sampling and analysis program and improved filtration, the Powerhouse total maintenance cost, labor and disposal costs were substantially lowered. It was achieved by longer oil life, reduced consumption and longer hydraulic component life.
- Castrol has instituted an oil sampling and analysis program. Necessary filtration improvements were determined based on oil sample results and Castrol provided a portable filter cart valued at \$3,600 free of charge.
- Anvol SWX has also improved seal life by keeping seals closer to their original condition for far longer than previous hydraulic oil.



- **Castrol Anvol SWX does not contain polymers or droplet size control materials and therefore is very shearing stable. There is no resultant loss of viscosity over time due to shearing.**
- **Labor for parts rebuild and replacement reduced**
- **Labor to maintain nominal oil viscosity completely eliminated**

*Formerly known as Anvol SWX 68 FM

RECOMMENDATIONS

Castrol Anvol SWX is the safest product in its class for continuous trouble-free production. This product is Factory Mutual approved.

Better fire protection – Anvol SWX does not contain polymers or ‘droplet size control materials’ and therefore is very shearing stable. There is no resultant loss of viscosity over time due to shearing.

Improved system performance – Anvol SWX offers superior anti-wear and more resistance to the build up of sludge and varnishes. This saves on replacement costs, cleaning and unplanned shutdowns.

Longer working life – Castrol Anvol SWX lasts longer in hydraulic systems. Unlike competitors, it does not rely on polymers (so called ‘reclassifiers’), which are quickly degraded or sheared by pumps.

	Product Used	Before Anvol SWX	After Anvol SWX
1	Total Volume Used	440 gal.	220 gal.
2	Total Product Cost	\$3080	\$2640
3	Changing Frequency	12 month	24 month +
4	Oil Change Labor	\$560	\$280
5	Oil / water make up Labor	\$3,640	0
6	Parts Rebuild & Replacement Labor	\$3,360	0
7	Oil Waste Cost	\$1,320	\$660
	Portable Filter Cart	\$3,600	0
	Total Maintenance Cost	\$15,560	\$3,580
	TOTAL SAVINGS	-	\$11,980

CONCLUSION

- Castrol Anvol SWX is able to handle the automotive assembly plant power house hydraulic systems.
- Anvol SWX service life was two years.
- No loss of equipment or down time was related to the use of Anvol SWX.
- Fluid usage over two years was reduced by 50%.
- Waste oil disposal costs were reduced by 50%.
- Through oil analysis, fluid life was extended using portable filter carts and in-line filter changes.
- **Total two years savings after introduction of Castrol Anvol SWX – \$11,980**



OTHER POTENTIAL APPLICATIONS

Castrol Anvol SWX is ideal for any hydraulic system where fire-resistant hydraulic fluid is required. The application of Anvol SWX will significantly increase equipment life and provide overall trouble-free operation.

Castrol Anvol SWX is able to handle not only automotive powerhouse hydraulic systems, but any other hydraulic system that requires fire-resistant hydraulic fluid such as Melt Shop and Caster at Steel Mills.