

TECHNICAL SERVICE BULLETIN



TSB #:	ZDDP0616	PART:	ZINC/PHOSPHORUS ADDITIVE
DATE:	06/16/2016	REVISION:	

ZINC AND PHOSPHORUS ADDITIVE

ZDDP (Zinc Dialkyldithiophosphates) is an additive found in motor oils that serve as an anti-wear agent where any metal to metal contact is made in an engine. Flat tappet camshafts, timing gears, piston skirts, piston rings, bearings, rocker arms, etc. are some of the high wear metal to metal contact points that benefit from the ZDDP protection.

In recent years, the EPA has mandated the critical anti-wear additive ZDDP be reduced in motor oils, much like removing lead from gasoline. Back in the 1980s, motor oil typically contained around 1500 PPM (parts per million) of ZDDP. In the 1990s, that was reduced to 1200 PPM, then down to around 800 PPM in 2005.

The demand for longer drain intervals has also caused the amount of detergent to increase, which interferes with the anti-wear protection provided by ZDDP and compounds the problem.

The target range of ZDDP should be 1800 PPM to 2000 PPM for maximum protection.

Adding a 4oz bottle of ZDDPlus® Oil additive, to every 5 quarts of your typical diesel motor oil will increase the ZDDP levels by 1256 PPM (Phosphorus) and 1751 PPM (Zinc). 1 to 2 bottles per oil change will put the levels back where they should be.

1 four ounce bottle of ZDDPlus® oil additive has the same concentration of ZDDP as two quarts of the Chevy Performance E.O.S® additive has!

Dosing Comparison of ZDDPlus® and Chevy Performance EOS® Additive with 5 quarts of your average diesel motor oil

Product	Amount Used (oz)	Phosphorus (ppm)	Zinc (ppm)
ZDDPlus®	4	51,500	71,800
GM EOS®	16	5,300	7,100
Typical Diesel Motor Oil	160	600	800

Target ppm Zinc & Phosphorus Concentration	Ounces of ZDDPlus®	Ounces of GM EOS®
1000	1.3	11.4
1100	1.7	14.3
1200	2.0	17.2
1300	2.3	20.0
1400	2.7	22.9
1500	3.0	25.7
1600	3.3	28.6
1700	3.7	31.5
1800	4.0	34.3
1900	4.3	37.2
2000	4.7	40.0

___1 bottle GM EOS®

___2 bottles GM EOS®

___1 bottle ZDDPlus®