



turbo
Precleaner

The turbo® II Precleaner



- ▶ Extends engine air filter life from 1 to 10 times
- ▶ Self-powered and self-cleaning
- ▶ Reduces engine wear and prolongs engine life
- ▶ Maintains effective engine breathing for maximum efficiency and power
- ▶ Minimizes costly down time
- ▶ Installs in minutes
- ▶ Tested by independent laboratories to SAE Standards



turbo III



turbo

PRECLEANER



| Item | Part no. | Description |
|------|-----------------|-----------------------------|
| 1 | TURBO M-12 | PRE CLEANER (TURBO I) |
| 2 | TURBO M-23 | PRE CLEANER (TURBO I) |
| 3 | TURBO M-45 | PRE CLEANER (TURBO I) |
| 4 | TURBO M-13 | PRE CLEANER (TURBO II) |
| 5 | TURBO M-24 | PRE CLEANER (TURBO II) |
| 6 | TURBO M-35 | PRE CLEANER (TURBO II) |
| 7 | TURBO M-46-4.5 | PRE CLEANER (TURBO II) |
| 8 | TURBO M-46-5 | PRE CLEANER (TURBO II) |
| 9 | TURBO M-46-6 | PRE CLEANER (TURBO II) |
| 10 | TURBO M-68-5 | PRE CLEANER (TURBO II) |
| 11 | TURBO M-68-6 | PRE CLEANER (TURBO II) |
| 12 | TURBO M-68-7 | PRE CLEANER (TURBO II) |
| 13 | TURBO M-3-3" | PRE CLEANER (TURBO III) |
| 14 | TURBO M-3-4" | PRE CLEANER (TURBO III) |
| 15 | TURBO 1-012-104 | SPINNER M-12 (ชนิดปีกใบพัด) |
| 16 | TURBO 1-023-104 | SPINNER M-23 (ชนิดปีกใบพัด) |
| 17 | TURBO 1-024-104 | SPINNER M-24 (ชนิดปีกใบพัด) |
| 18 | TURBO 1-035-104 | SPINNER M-35 (ชนิดปีกใบพัด) |
| 19 | TURBO 1-046-104 | SPINNER M-46 (ชนิดปีกใบพัด) |



turbo® Precleaners Recommendations for Heavy Equipment

Used in Construction, Mining, Logging, Municipal and Industrial Applications

In order to accurately determine the proper turbo® Precleaner to use with any specific make or model of a diesel or gasoline engine, you must first calculate the C.F.M. (cubic feet per minute of air) requirement of that engine. In making this calculation, it is important to note that any change in the R.P.M. (revolutions per minute) or the addition of a turbocharger can alter the C.F.M. rating of the engine.

Formula

Volumetric Efficiency

$$\text{Air (CFM)} = \frac{\text{R.P.M.} \times \text{C.I.D.} \times \text{Vol. Eff.}}{3456}$$

| | |
|-------------------------------------|-----------------------------|
| Diesel Engines – normally aspirated | = .85 |
| turbocharged | = 1.85 |
| | (intercooled / aftercooled) |

To convert Metric Displacements to C.I.D. for use in the formula above, use the following conversion factor:

$$\text{Displacement in Liters} \times 61.02 = \text{C.I.D.}$$

| | | | |
|--------------------------------|---------------------------------|----------------------------------|----------------------------------|
| C.F.M. – Cubic Feet per Minute | R.P.M. – Revolutions per Minute | C.I.D. – Cubic Inch Displacement | Vol. Eff.- Volumetric Efficiency |
|--------------------------------|---------------------------------|----------------------------------|----------------------------------|



| turbo® II Precleaner | | | | |
|----------------------|---------------|-----------|------------------|--------------------|
| Model # | Airflow range | | Inlet size base | |
| | CFM | m3/min | Inches | mm |
| 24 | 100-250 | 2.8-7.1 | 3" or 4" | 76 or 102 |
| 35 | 250-350 | 7.1-9.9 | 4.5" | 114 |
| 46 | 300-700 | 8.5-19.8 | 4.5", 5", 6", 7" | 114, 127, 152, 178 |
| 68 | 700-1100 | 19.8-31.1 | 5", 6", 7", 8" | 127, 152, 178, 203 |

All turbo® II models are available with a raincap or with a bull-nose • Material: Metal with powdercoat finish

turbo® III Precleaner

| Model # | Airflow range | | Inlet size base | |
|---------|---------------|-----------|-----------------|---------------|
| | CFM | m3/min | Inches | mm |
| 15 | 15-85 | 0.4-2.4 | 2" | 51 |
| 50 | 50-250 | 1.4-7.1 | 3" or 4" | 76 or 102 |
| 200 | 200-500 | 5.6-14.2 | 4.5" or 5" | 114 or 127 |
| 500 | 500-1100 | 14.2-31.1 | 6", 7", 8" | 152, 178, 203 |

All turbo® III are available with raincap • Material: Polymer, 25% glass filled

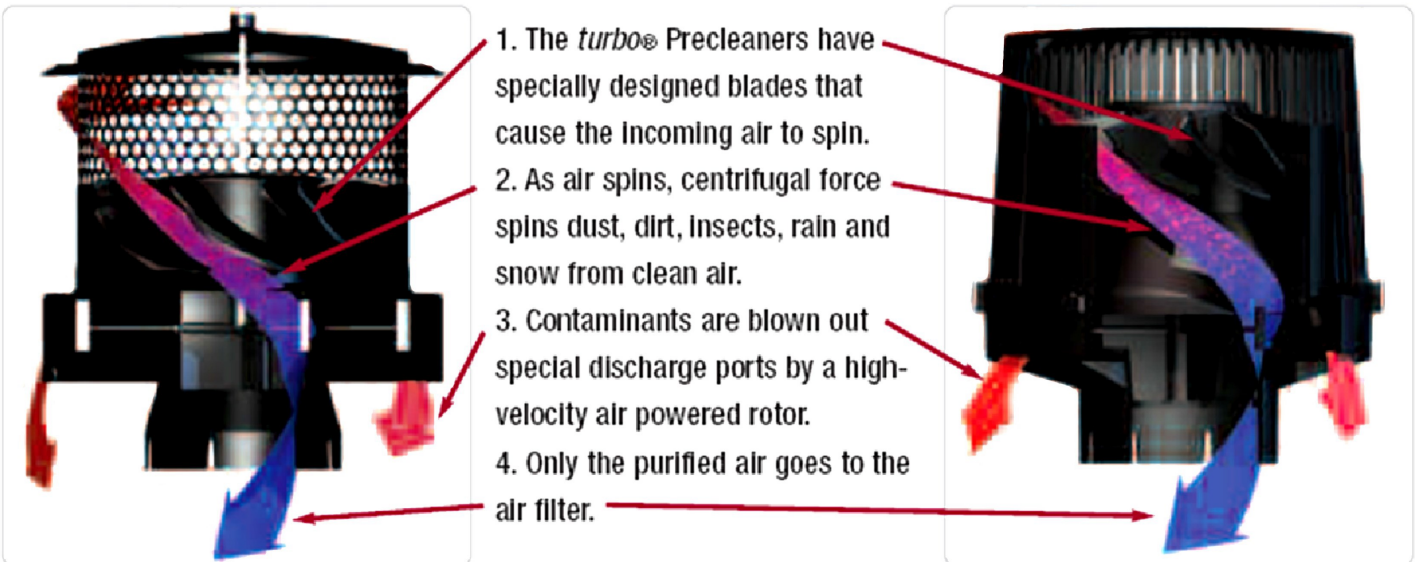


| turbo® PowerRam Precleaner | | | | |
|----------------------------|---------------|-----------|-----------------|---------------|
| Model | Airflow range | | Inlet size base | |
| | CFM | m3/min | Inches | mm |
| S | 50-500 | 1.4-14.2 | 3", 4", 5" | 76, 102, 127 |
| L | 500-1500 | 14.2-42.5 | 6", 7", 8" | 152, 178, 203 |
| XL | 1000-1800 | 28.3-51.0 | 6", 7", 8" | 152, 178, 203 |

Models "S" and "XL" are under development • Polymer, 25% glass filled • Model "L" is metal with powdered coat finish



Model Specifications



turbo® II Precleaner

turbo® III Precleaner

21EX043-070 A

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SECTION A-A

SECTION A-A

SECTION A-A

SECTION A-A

PRELIMINARY RATINGS
 FLOW RATINGS: 500-1100 CFM [850-1870 M³/HR]
 RESTRICTION RATING AT MAX FLOW: 11" WATER [2.7 KPA]

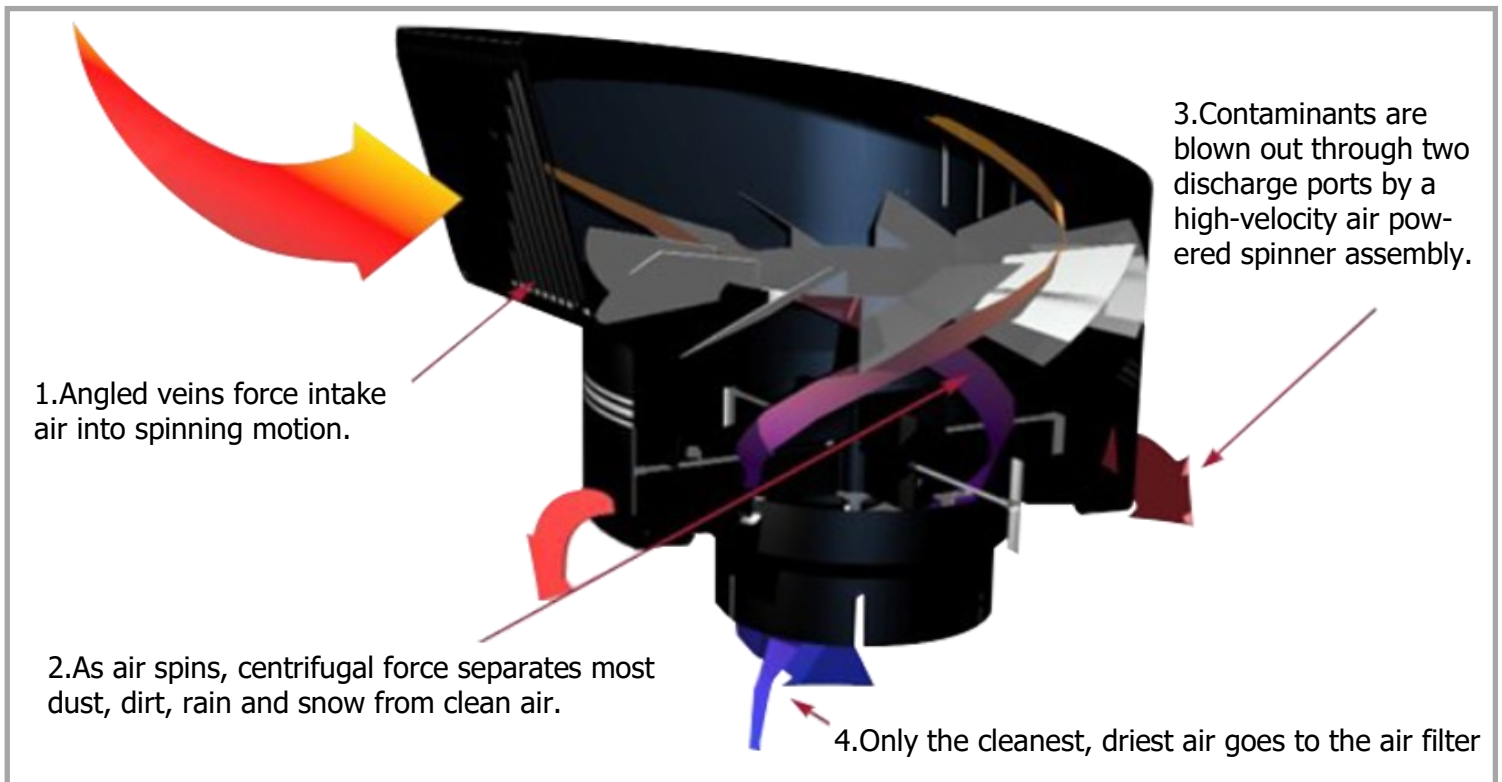
UNITS: INCHES [MM]

| | | | |
|---|---|---|-----------------------------|
| MATERIAL: SEE BOM | | FINISH: N/A | |
| THIRD ANGLE PROJECTION | INTERPRET IN ACCORDANCE WITH ANSI Y14.5M-1982 | MARADYNE TURBO PRECLEANERS Cleveland, Ohio | |
| STD TOLERANCES (UNLESS OTHERWISE NOTED) Fractional ±1/32 Decimal .00±0.010 Angular ±1° WHOLE NUMBERS & 1 PLACE DECIMALS ARE REFERENCE DIMENSIONS ONLY | | TITLE TURBO III- 500 PRECLEANER | |
| DIMENSIONS IN INCHES [mm] | DO NOT SCALE | SIZE A | REV A |
| PROJ- 21EX043 | Created- 9-6-06 | FSM NO. OM820 | DWG. NO. 21EX043-070 |
| REF- | Author - RDINGESS | APPROVED | SCALE 1:5 |
| | Checked - PDE | | SHEET SHEET 1 OF 1 |



The *turbo*® PR Precleaner

- ▶ Improves engine performance by delivering more air to engine at highway speeds. Saves Fuel!
- ▶ Louvered screen prevents plugging from snow or ice build-up.
- ▶ Extends air filter element life by removing most rain, snow, dust, etc., from intake air.
- ▶ Reduces re-entry of sooty exhaust air into air-intake



S and XL sized units are made from Polymer with 25% glass center. L units are metal with a powder coat finish. Important Note: turbo PR Precleaners are sized according to maximum engine c.f.m. To order, indicate maximum engine R.F.M. , cubic inch displacement, whether gas or diesel is used, and if engine is turbocharged.

turbo PR Precleaner models and size

| Model | CFM | m3/min | Inches | mm |
|--------------|---------------|-----------|---------------------|---------------|
| | Airflow Range | | Inlet Diameter Size | |
| Power Ram S | 50-500 | 1.4-14.2 | 3", 4", 5" | 76, 102, 127 |
| Power Ram L | 500-1500 | 14.2-42.6 | 6", 7", 8" | 152, 178, 203 |
| Power Ram XL | 1000-1800 | 28.3-51.0 | 9", 10", 11" | 229, 254, 279 |



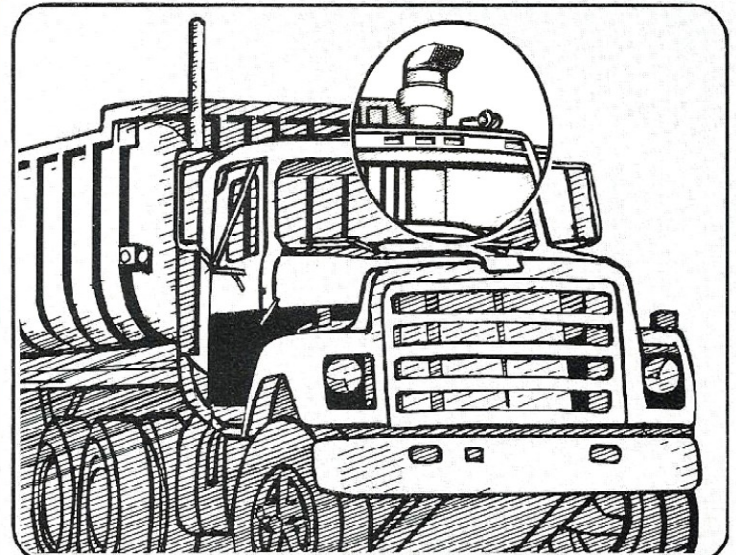
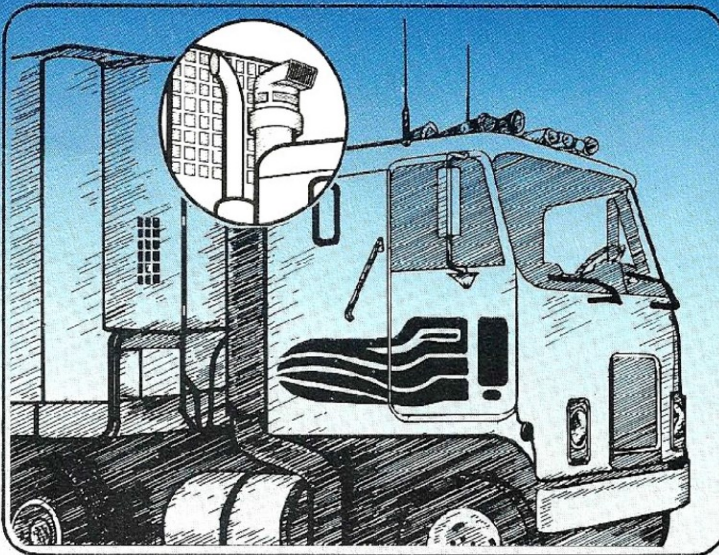
PROTECT YOUR INVESTMENT
WITH A...

RAM AIR TURBO II PRE-CLEANER

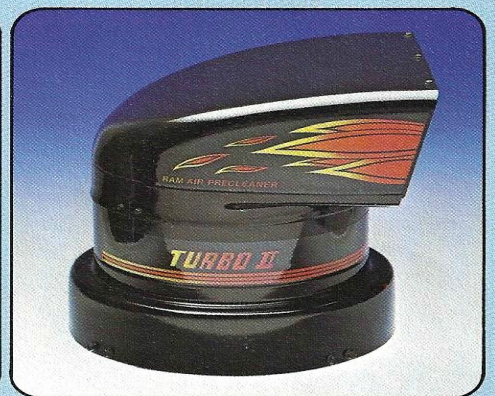
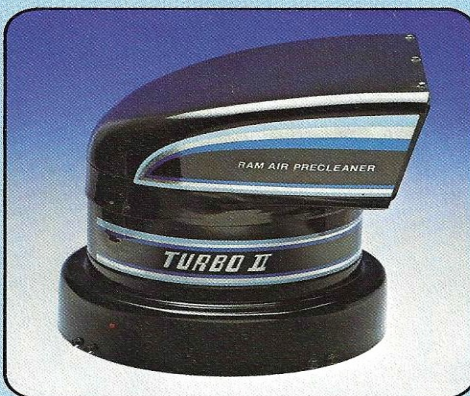
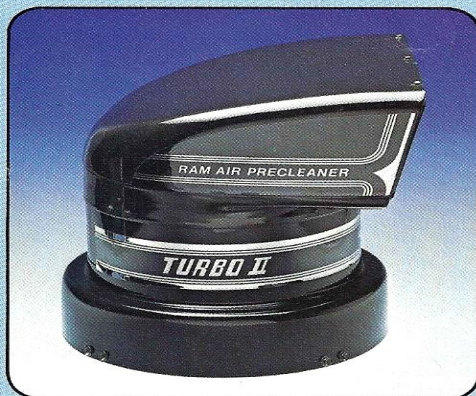


Cleans engine air before
it reaches the filter!

U.S. Patent No. 4201557
Canada Patent No. 1072886
and other U.S. and foreign patents.



You select from three colorful decals enclosed in each RAM AIR™ carton





Flex-n-Line

By Turbo Precleaners®

Limited, or no space under the hood?



- Extends engine air filter life from 2 to 10 time
- Self-power and self-cleaning
- Reduces engine wear and prolongs engine life
- Maintains effective engine breathing for maximum efficiency and power
- Minimizes costly down time
- Tested by independent laboratories to SAE Standards

Problem Solved...
the only inline precleaner available on the market

- Extremely compact unit
- Easily adaptable
- Promotes better engine efficiency
- Straight thru air flow
- Cools air to the engine

