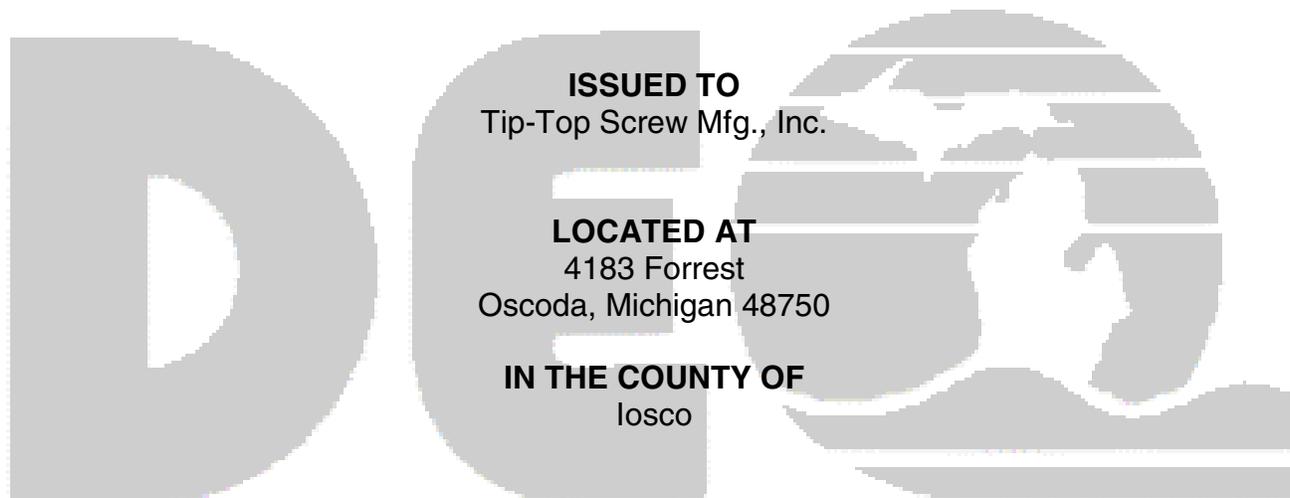


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

February 4, 2008

**PERMIT TO INSTALL
No. 289-06A**



ISSUED TO
Tip-Top Screw Mfg., Inc.

LOCATED AT
4183 Forrest
Oscoda, Michigan 48750

IN THE COUNTY OF
Iosco

STATE REGISTRATION NUMBER
N7378

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: 2/1/2008	
DATE PERMIT TO INSTALL APPROVED: 2/4/2008	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	Btu	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure*	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO _x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM-10	Particulate Matter less than 10 microns diameter
MSDS	Material Safety Data Sheet	pph	Pound per hour
NESHAP	National Emission Standard for Hazardous Air Pollutants	ppm	Parts per million
NSPS	New Source Performance Standards	ppmv	Parts per million by volume
NSR	New Source Review	ppmw	Parts per million by weight
PS	Performance Specification	psia	Pounds per square inch absolute
PSD	Prevention of Significant Deterioration	psig	Pounds per square inch gauge
PTE	Permanent Total Enclosure	scf	Standard cubic feet
PTI	Permit to Install	sec	Seconds
RACT	Reasonably Available Control Technology	SO ₂	Sulfur Dioxide
ROP	Renewable Operating Permit	THC	Total Hydrocarbons
SC	Special Condition	tpy	Tons per year
SCR	Selective Catalytic Reduction	µg	Microgram
SRN	State Registration Number	VOC	Volatile Organic Compounds
TAC	Toxic Air Contaminant	yr	Year
TEQ	Toxicity Equivalence Quotient		
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R 336.1219. The notification shall include all of the information required by R 336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R 336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law nor does it affect any liability for past violations under the Natural Resources and Environmental Protection Act, 1994 PA 451.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.
11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

Emission Unit Identification

Emission Unit ID	Emission Unit Description	Stack Identification
EU-Heat Treat	A heat treat process which consists of a hardening (batch) furnace with an internal quench oil bath, a hot water wash station, a tempering furnace, and a 5500 gallon horizontal methanol storage tank. Endothermic gas is generated from methanol or natural gas. All of the units are natural gas fired. Emissions from the hardening furnace and the oil quench bath are controlled by an effluent burner and inlet flame curtain. Emissions from the tempering furnace are controlled by a Smog-Hog air pollution control system.	SVBatchBurner1 SVBatchBurner2 SVBatchHood SVPartsWash1 SVPartsWash2 SVSmogHog SVEndoTherm
EU-AmmoniaTk	A 1500 gallon capacity horizontal anhydrous ammonia storage tank.	NA

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.

The following conditions apply to: EU-Heat Treat

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirements
1.1a	PM	The Tempering Furnace Portion of EU-Heat Treat	0.05 lbs per 1000 lbs of exhaust gases*	Test Protocol	General Condition No. 13	R 336.1331
1.1b	PM-10	The Tempering Furnace Portion of EU-Heat Treat	1.35 Pounds Per Hour	Test Protocol	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)
* Calculated on a dry gas basis.						

Visible Emission Limits

1.2 Visible emissions from the Tempering Furnace portion of EU-Heat Treat shall not exceed a six-minute average of ten percent opacity. **(R 336.1301)**

Equipment

1.3 The permittee shall not operate the Tempering Furnace portion of EU-Heat Treat unless the Smog-Hog air pollution control system is installed, maintained, and operated in a satisfactory manner. **(R 336.1331, R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

1.4 The permittee shall not operate the Hardening Furnace and the Oil Quench Bath portions of EU-Heat Treat unless the effluent burner and inlet flame curtain are both installed, maintained, and operated in a satisfactory manner. **(R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

Stack / Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.5a	SVBatchBurner1	12.0	31.5	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.5b	SVBatchBurner2	12.0	31.5	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.5c	SVBatchHood	10.0	31.0	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.5d	SVPartsWash1	8.0	24.0	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.5e	SVPartsWash2	5.0	28.5	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.5f	SVSmogHog	36"x 24"	14.5	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.5g	SVEndoTherm	6.0	25.0	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases from stack Nos. SVBatchBurner1, SVBatchBurner2, SVBatchHood, SVPartsWash1, and SVPartsWash2 shall be discharged vertically upwards to the ambient air. The exhaust gases from stack No. SVSmogHog may be discharged unobstructed horizontally to the ambient air.				

The following conditions apply to: EU-AmmoniaTk

Process/Operational Limits

- 2.1 Except where specific requirements of these special conditions are applicable and more stringent, anhydrous ammonia storage shall comply with "Part 78, Storage and Handling of Anhydrous Ammonia" (MIOSHA 1910.111), hereinafter Rule 7801. A copy of this standard, which may be obtained by contacting the Michigan Department of Consumer and Industry Services, Bureau of Safety and Regulations, Safety Standards Division, 7150 Harris Drive, Lansing, Michigan 48909-8143, shall be maintained for inspection at the facility. **(R 336.1224, R 336.1901)**
- 2.2 The permittee shall not store anhydrous ammonia on the site unless the inspection and maintenance program specified in Appendix A has been implemented and is maintained. The permittee shall conduct an inspection prior to each delivery. **(R 336.1224, R 336.1901)**
- 2.3 The permittee shall not store anhydrous ammonia on the site unless a remotely operated internal or external positive shut-off valve is installed to allow access for emergency shut-off of all flow from stationary anhydrous ammonia storage containers. **(R 336.1224, R 336.1901)**
- 2.4 The permittee shall not store anhydrous ammonia on the site unless all transfer operations, including transport deliveries, are performed by a reliable person properly trained and make them responsible for proper compliance with all applicable procedures. **(R 336.1901)**

Equipment

- 2.5 All anhydrous ammonia containers shall be fitted with safety relief valves in accordance with Rule 7801(b)(9). Such valves shall be stamped with the date manufactured, and shall be replaced, or re-tested and re-certified, at least every five years or more often if there is evidence of damage or deterioration. **(R 336.1224, R 336.1901)**
- 2.6 The permittee shall not store anhydrous ammonia on the site unless a bulkhead, anchorage, or equivalent system is used at each transfer area for anhydrous ammonia so that any break resulting from a pull will occur at a predictable location while retaining intact the valves and piping on the plant side of the transfer area. **(R 336.1224, R 336.1901)**
- 2.7 The permittee shall not store anhydrous ammonia on the site unless any liquid lines in rail and transport transfer areas for anhydrous ammonia are equipped with back pressure check valves and all liquid lines not requiring a back check valve and all vapor lines are equipped with properly sized excess flow valves. These valves shall be installed on the main container side of the predictable break point at the bulkhead. **(R 336.1224, R 336.1901)**
- 2.8 All hoses used for anhydrous ammonia shall be replaced five years after date of manufacture or more often if there is evidence of damage or deterioration. **(R 336.1224, R 336.1901)**
- 2.9 Any vapor or liquid line, exclusive of couplings, requiring venting after ammonia transfer shall be vented through a water trap of 55 gallons minimum size. Safety water shall not be used for this purpose. **(R 336.1224, R 336.1901)**

Recordkeeping/Reporting/Notification

- 2.10 The permittee shall maintain records of all inspections conducted to comply with SC 2.2. The permittee shall also record any actions taken to correct the deficiencies found during the inspection. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1224, R 336.1901)**
- 2.11 The permittee shall keep, in a satisfactory manner, records of anhydrous ammonia container relief valve replacement or re-testing, as required by SC 2.5, and all anhydrous ammonia hose replacements, as required by SC 2.8. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1224, R 336.1901)**
- 2.12 The permittee shall notify the Pollution Emergency Alerting System (PEAS) 1-800-292-4706 and/or the AQD District Supervisor immediately of any abnormal release of anhydrous ammonia from EU-NH3STGTANK. A normal release includes only hose coupling bleed downs, operation of hydrostatic relief valves, and normal pressure relief from the safety relief valve(s). Relief due to overfilling is not normal. **(R 336.1201(3), R 336.1224, R 336.1901)**

Appendix A: Inspection and Maintenance Program
Permanent Ammonia Storage Tank

Inspection Items 1-15 of 30:	Satisfactory?			Action taken to correct deficiency:	Inspection Items 16-30 of 30:	Satisfactory?			Action taken to Correct deficiency:
	Yes	No	Date*			Yes	No	Date*	
1. Tank free of leaks					16. Protective gloves, boots, suits or slickers available and in good condition				
2. Tank supports in good condition (no cracked or crumbled concrete, etc.)					17. Gas masks with ammonia type canisters and refill canisters within date limits available				
3. Paint in good condition					18. Emergency clean water, shower or 75 gallon tank available nearby				
4. Equipment locked when not in use					19. Hoses in good condition				
5. Tank properly labeled					20. Hoses no older than five years from date of manufacture and marked				
6. Valves and fittings free from leaks and in good condition					21. Vapor and liquid hoses are proper ammonia- type and free of damage or deterioration				
7. Piping properly supported and guards in place					22. Hoses suitably racked to prevent kinking				
8. Pipes free of physical damage and rust and properly painted					23. Hoses securely clamped to the nipples				
9. Employees trained in proper filling procedures					24. Gages, pressure and liquid level, operable				
10. Provisions provided for bleeding of transfer hose from the transport truck					25. Valves properly labeled "liquid" and "vapor"				
11. Wheels properly chocked on the transport truck or rail tank car while unloading					26. Safety relief valves within five years of manufacture or recertification and marked				
12. Information and warning signs displayed and in good condition					27. Outlet openings on valves and lines free of dirt and rust with protective caps in place				
13. Area free of weeds, trash and other unsafe conditions					28. Safety relief valves free of debris with rain caps installed				
14. Unused equipment stored out of the way					29. Safety relief valve manifold operable				
15. Chemical safety goggles available and in good condition					30. Remote shut-off valve in working order				

Date Inspected: _____

Inspector: _____

* For each item, check if condition is satisfactory or not satisfactory. If condition is not satisfactory, complete date when corrected and record action(s) taken to correct. If condition is not applicable, write NA