INC DYNO TEST ROOMS
for
Motorcycle & ATV Testing

The INC Dyno Test Room is a pre-engineered modular system for building a professional high performance motorcycle or ATV dynamometer test room in your facility. Its features are specifically designed to work with or without load control devices. Designed and constructed of our 4" thick modular acoustical panels called **Panl-Wall®**, the INC Dyno Room will allow you to safely operate a dynamometer while providing excellent exhaust ventilation and high performance sound reduction of 40 dBA or more.

The walls and roof of the room are assembled using our modular 4" thick acoustical panels that are joined together using our one-piece H-joiner providing a structurally robust assembly. Room corners are built by butting perpendicular wall panels using our unique one-piece corner post. This assembly style is easy to put together and provides a great degree of structural integrity. All interior surfaces of the Dyno Room consist of perforated sheet metal and are highly acoustically absorptive, which dramatically improves acoustical performance and eliminates interior noise build up.

Each standard room configuration includes one 4'-0" x 7'-0" single swing, high performance acoustical door complete with heavy duty seals and hardware (optional double 6'-0" door available). One 42"x42" double glazed tempered safety glass window, and all necessary joiners, trims, and assembly hardware.

A key component in any dyno testing space is ventilation. Our compatible ventilation systems include fans, heavy duty low frequency exhaust silencer stack, aerodynamic inlet grille and related assembly components. The capacity of the ventilation system is based in part on the size of the test room and the expected maximum horsepower to be developed inside. We design our ventilation systems to provide a complete air change 8 to 10 times per minute. Our vent packages are high performance silenced systems, so engine and exhaust noises will be significantly reduced through the exhaust assembly, maintaining the acoustical integrity of the Dyno Room while effectively removing exhaust gases and heat and supplying fresh air.

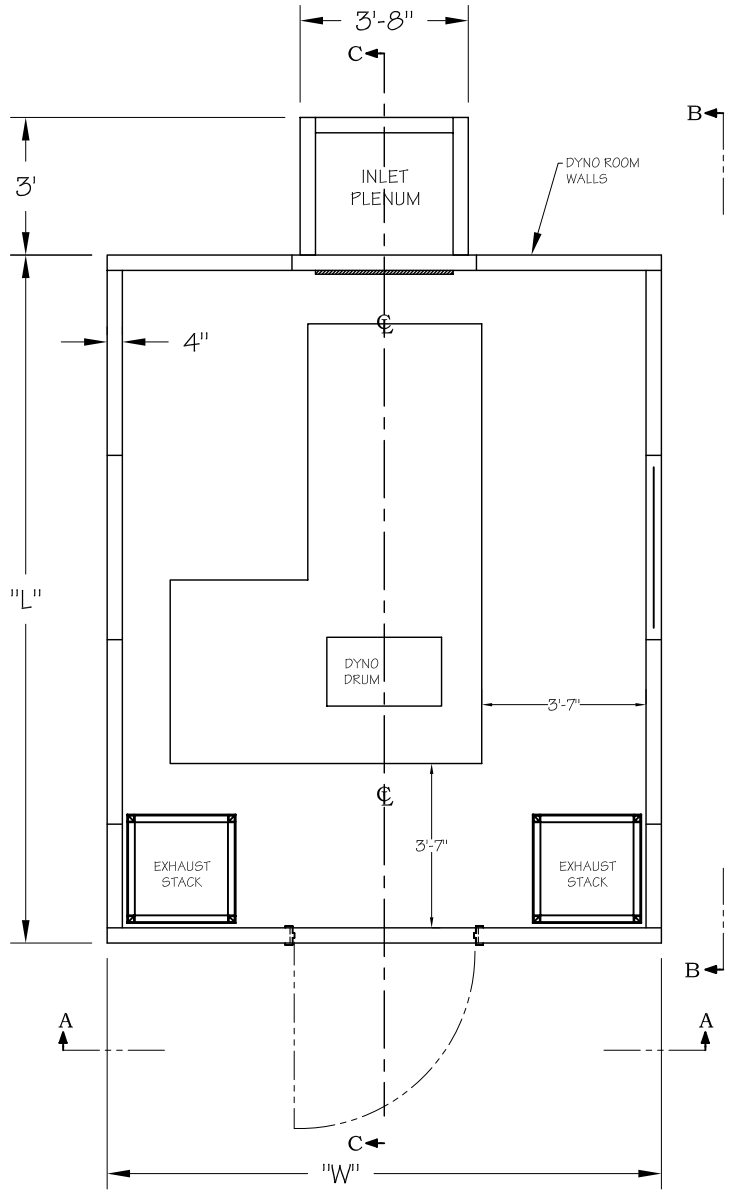
All components are fabricated of electro-galvanized sheet metal that provides protection from corrosive materials, solvents, fuels, etc., and can be easily painted. Factory prime and painting of your Dyno Room is available as an option.

REV. NO.	DATE	DESCRIPTION

INC
specialists in noise control products
industrial noise control, inc.
401 Airport Rd. - North Aurora, IL 60542 - 800/954-1998

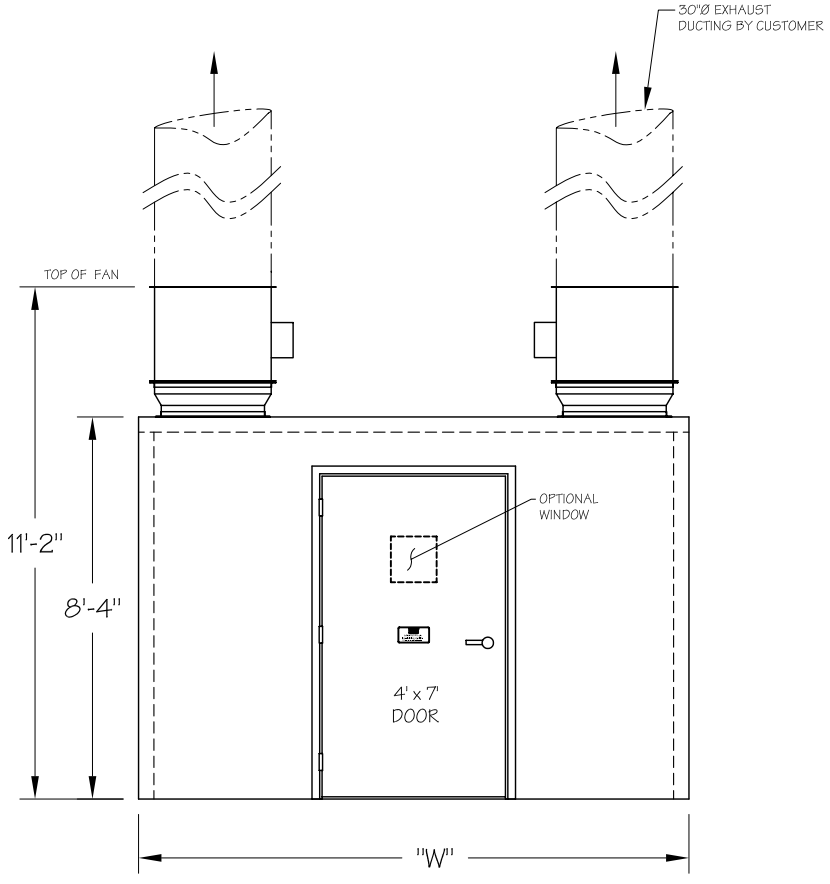
CUSTOMER :	PROJECT : INC MOTORCYCLE DYNO TEST ROOMS	
DWG. TITLE : COVER SHEET		
PO # :	DRN. BY : MJR	JOB : 2007-
NOT TO SCALE	5/1/2007	SHT. : 1 OF 5

ROOM SIZE	W	L	WINDOW	DOOR	6' DOUBLE DOOR	ADDITIONAL WINDOWS
10' X 12'	10'	12'	42" X 42"	4' X 7'	N / A	AVAILABLE
10' X 15'	10'	15'	42" X 42"	4' X 7'	N / A	AVAILABLE
12' X 15'	12'	15'	42" X 42"	4' X 7'	AVAILABLE	AVAILABLE
12' X 18'	12'	18'	42" X 42"	4' X 7'	AVAILABLE	AVAILABLE
14' X 16'	14'	16'	42" X 42"	4' X 7'	AVAILABLE	AVAILABLE

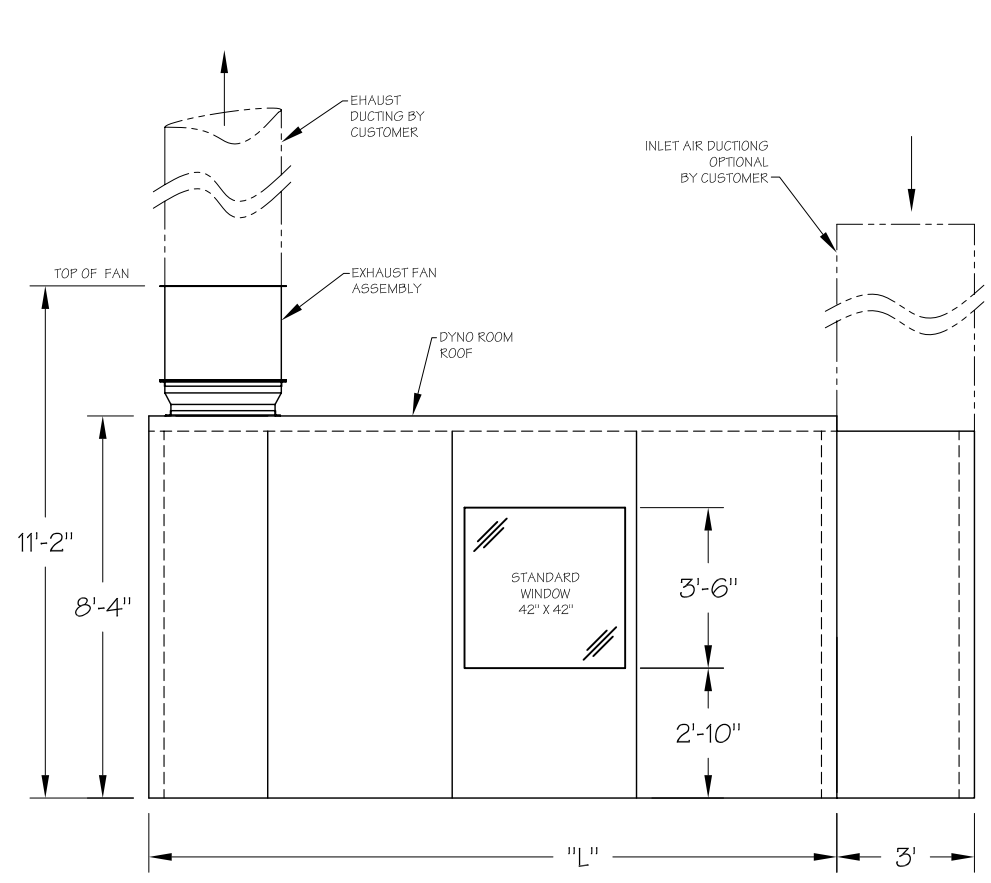


FLOOR PLAN

* DYNAMOMETER LOCATION SHOWN FOR A DYNOJET MODEL 250i PIT MOUNT



END ELEVATION VIEW A-A



SIDE ELEVATION VIEW B-B

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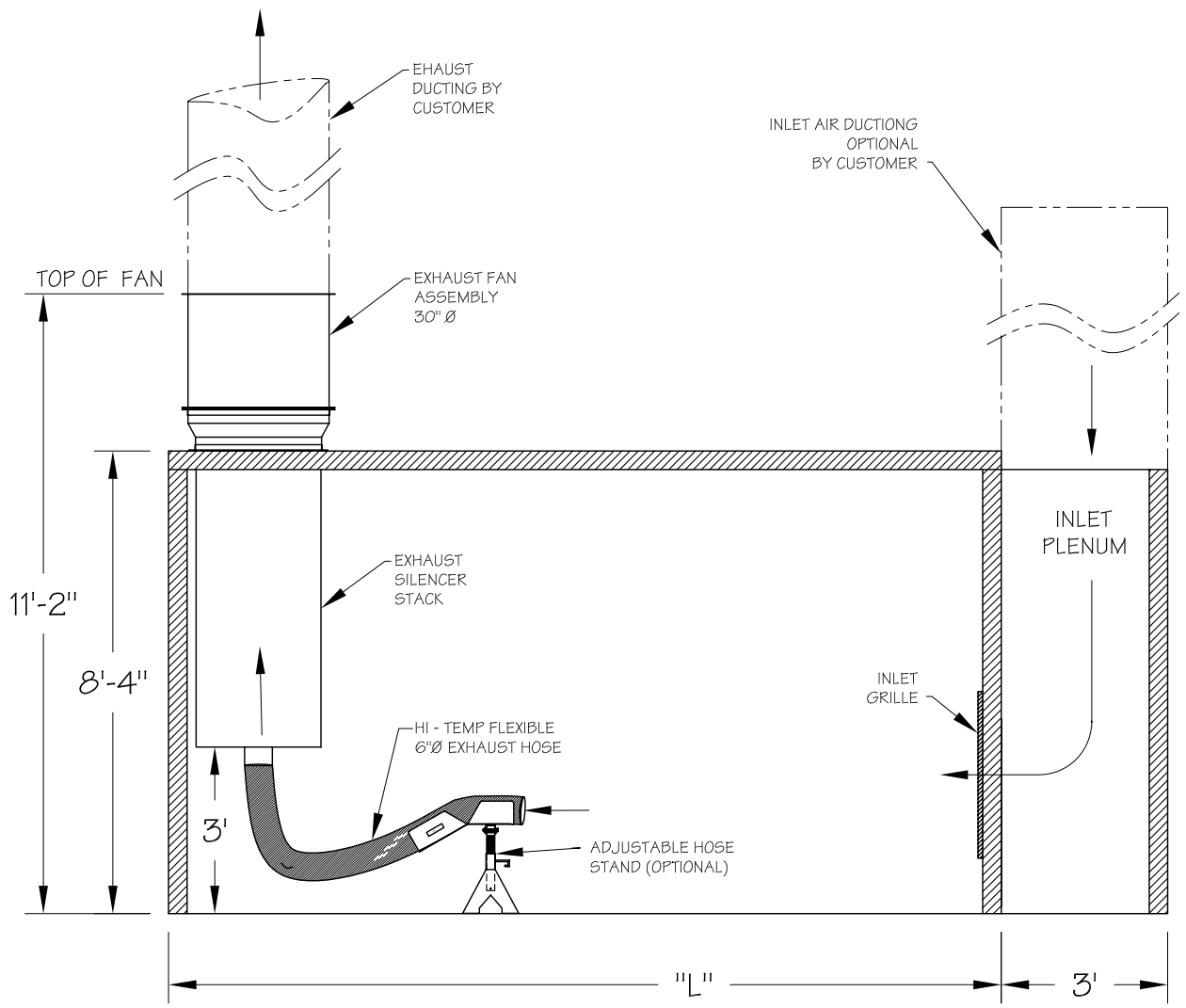
401 Airport Rd. - North Aurora, IL 60542 - 800/954-1998

CUSTOMER :	PROJECT : INC MOTORCYCLE DYNO TEST ROOMS

DWG. TITLE : PLANS AND ELEVATIONS

PO # :	DRN. BY : MJR	JOB : 2007-
NOT TO SCALE	5/1/2007	SHT. : 2 OF 5



SECTION C-C

Ventilation Details

1. General Operation

SuperVent system consists of silenced exhaust stacks, roof mounted exhaust fans, fittings and inlet plenum Fresh air is drawn through our silenced intake plenum. When properly installed and used our ventilation system will bring the CO levels in the room during testing to a safe range of 5 to 10 ppm and exchange interior air at a rate of 8 to 10 times per minute.

Please note that INC vent systems are designed to provide adequate heat and combustion gas removal from the room and fresh air make-up without temperature or humidity controls... not to simulate or provide airflow proportional to motorcycle speed under actual operating conditions. Also note that some dynamometer installations may require additional pit or dyno ventilation that is not provided by INC. Please contact dynamometer manufacturer for details and specifications.

2. Exhaust Ducting

The exhaust fans must be ducted to the exterior of your facility to properly remove heat and combustion gases. We recommend the use of round spiral or rectangular duct. The system is sized to allow for a maximum duct length from each fan of 15'. Any turns must be made using turning vanes to minimize duct pressure. Exterior weather cap suitable for the local environmental conditions to be provided by others.

3. Intake Ducting

Intake air can be drawn from inside your facility requiring no additional ducting. To bring intake air in from outdoors, it will be necessary to install non-restrictive ducting from the top of our inlet plenum to the exterior of your facility. Any turns must be made using turning vanes to minimize duct pressure and to maintain the proper flow direction of the incoming air stream.

4. Electrical Requirements

The following electrical circuits are required:

- 230-460V 3-Phase 40 AMP for Exhaust Fans
(Single Phase Configuration Available as an Option)

- See Lighting & Electrical Details Note #2 on Sheet 4 for additional information

5. Included Components

Then following components are included with the purchase of our SuperVent Dyno Room Ventilation System:

- Two (2) interior silenced exhaust stacks with stands
- Two (2) 5 HP exhaust fans & mounting transitions
- Two (2) 6" diameter x 11' long hi-temp flexible exhaust hoses with flare ends and connector fittings
- One (1) silenced intake air plenum
- One (1) fixed air intake grille
- Adjustable exhaust hose stands are available as purchase options

6. Supplied By Customer

It is the buyer's responsibility to provide all required ducting beyond the exit of the fans and the entrance of our inlet plenum as well as all fan motor starters and controls.

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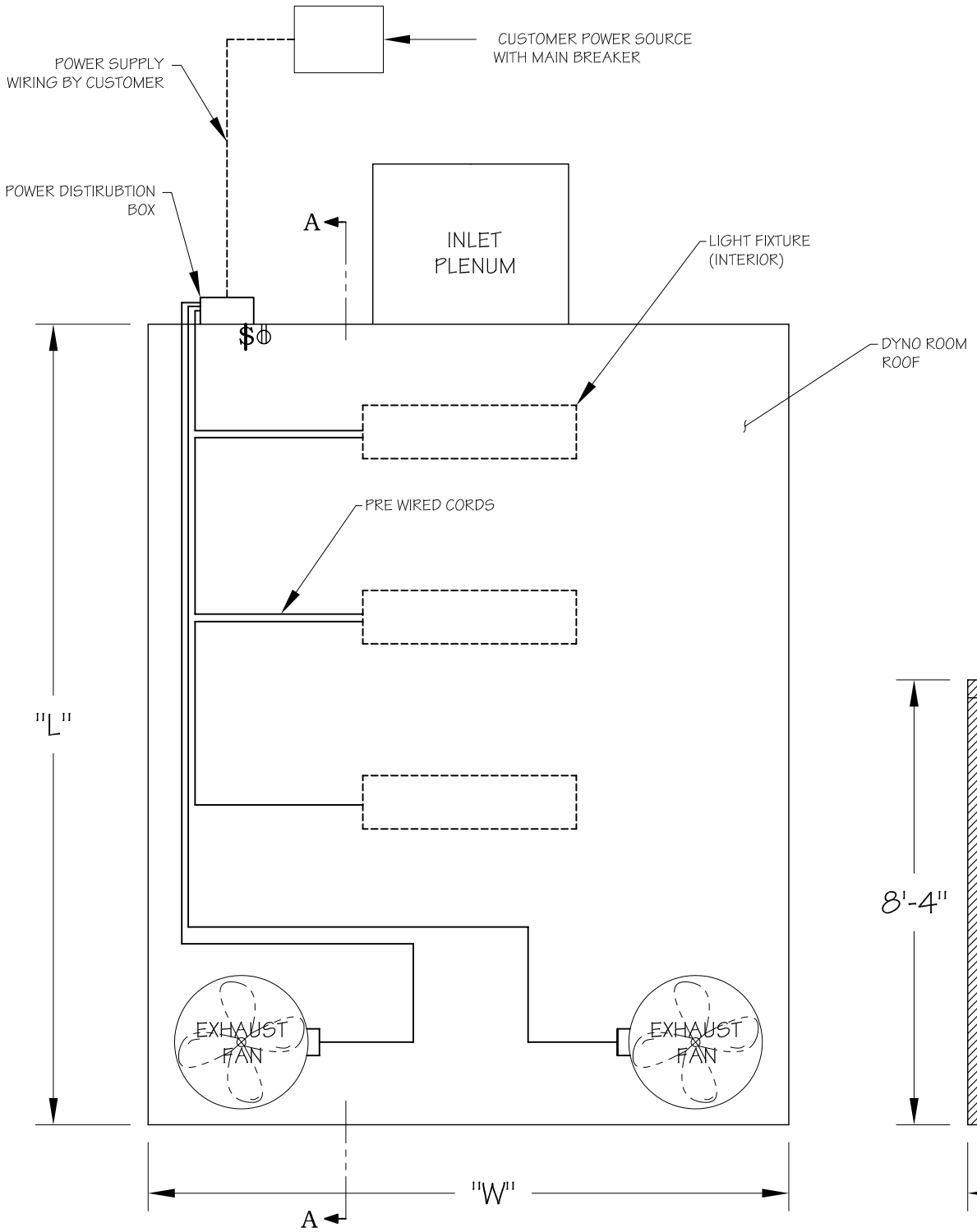
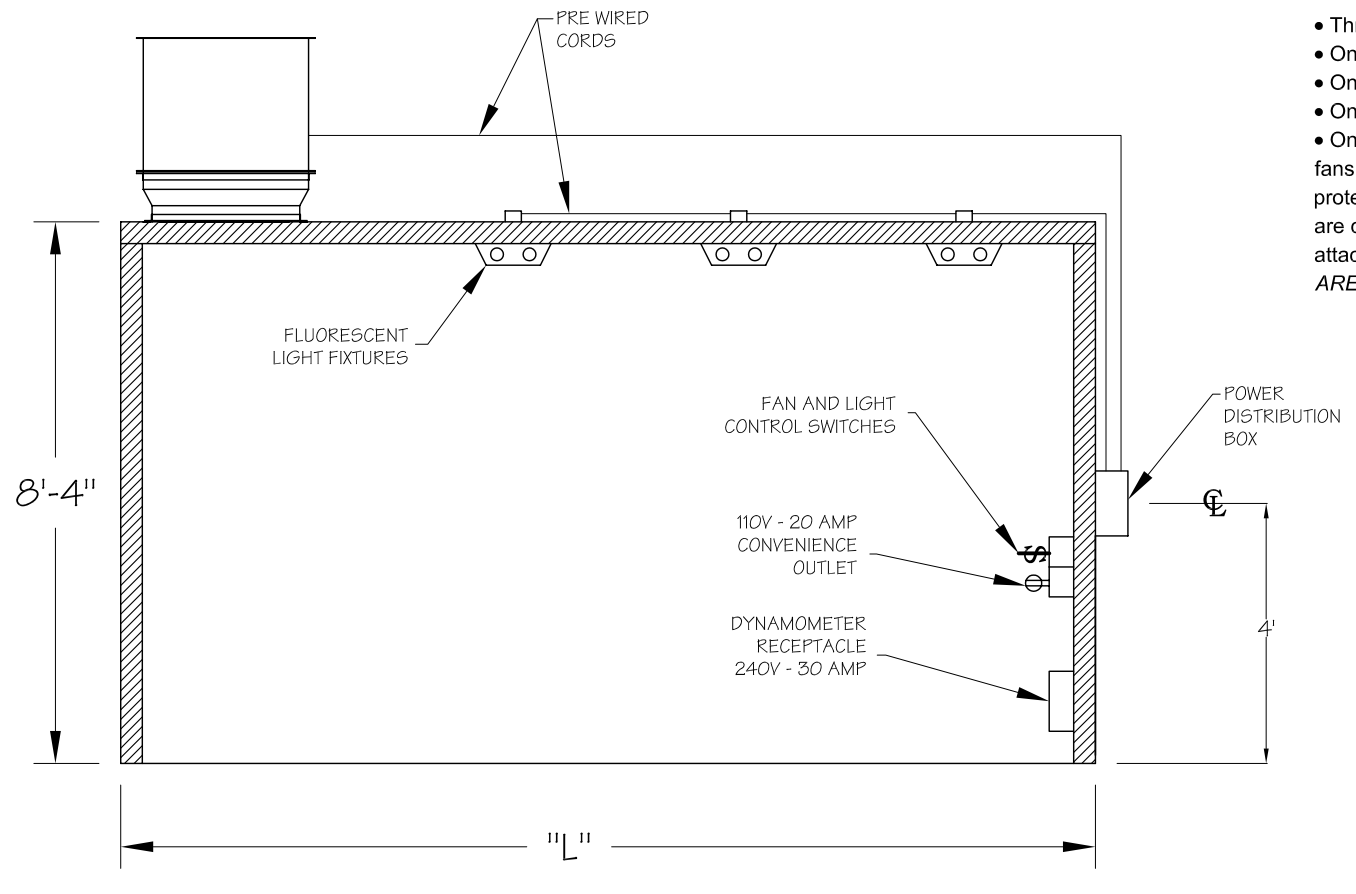
CUSTOMER :	PROJECT : INC MOTORCYCLE DYNO TEST ROOMS
DWG. TITLE : VENTILATION SECTION	
PO # :	DRN. BY : MJR / JOB : 2007-
NOT TO SCALE	5/1/2007 / SHT. : 3 OF 5



ROOF PLAN



VIEW A-A

Optional Pre-Wired Lighting & Electrical System

1. General

When the optional INC Lighting & Electric Package is purchased, you will receive a pre-wired system that is ready for source power hook-up on site. All components simply plug into our Power Distribution Center.

2. Power Requirements

3-phase x 100 AMP power supply is to be brought to the dyno room power distribution box from a breakered power source providing the following:

230/460V 3-Phase, 40 AMP for Exhaust Fans
120V 1-Phase, 20 AMP for Lighting & Convenience Outlets
240V 1Phase, 30 AMP for Dynojet Model 250i dynamometer

3. Location

Our power distribution box is factory installed into a single wall panel. This panel may be located in any corner position at the front (inlet air) side of the dyno room.

4. Included Components

The following components are included and factory installed with the purchase of our pre-wired lighting & electrical package:

- Three (3) Ceiling Mounted Fluorescent Light Fixtures
- One (1) Wall Mounted 120V Duplex Receptacle
- One (1) Wall Mounted Switch for Lights
- One (1) Wall Mounted Switch for Ventilation Fans
- One (1) Exterior Wall Mounted Power Distribution Center pre-wired for fans, lighting and receptacles. Includes all required relays, overload protectors, terminal blocks and grounding bars. Lights, switches and fans are connected to the Power Distribution Center using pre-wired and attached insulated power cords. *NO BREAKERS OR MOTOR STARTERS ARE INCLUDED IN THIS BOX*.

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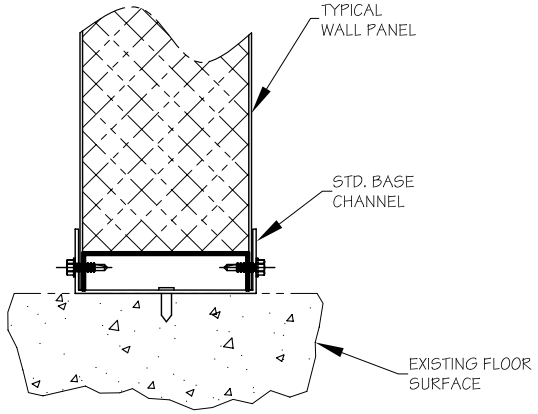
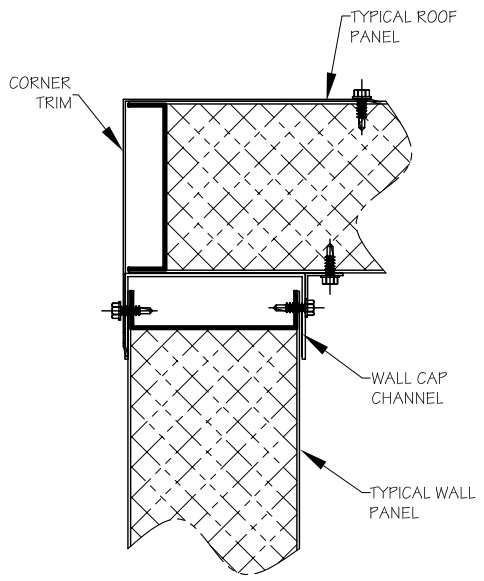
CUSTOMER :	PROJECT : INC MOTORCYCLE DYNO TEST ROOMS
DWG. TITLE : OPTIONAL LIGHTING AND ELECTRICAL PACKAGE	
PO # :	DRN. BY : MJR / JOB : 2007-
NOT TO SCALE / 5/1/2007	SHT. : 4 OF 5



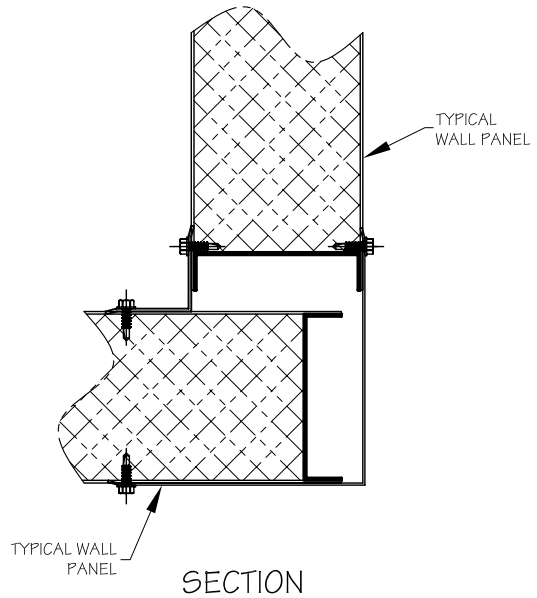
SECTION

SHOWING TYPICAL PANEL TO FLOOR CONNECTION



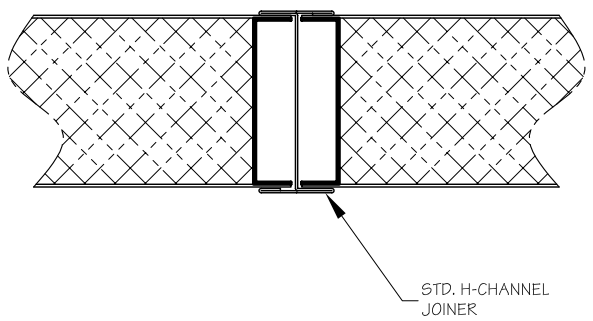
SECTION

SHOWING TYPICAL WALL PNL
TO ROOF PNL CONNECTION



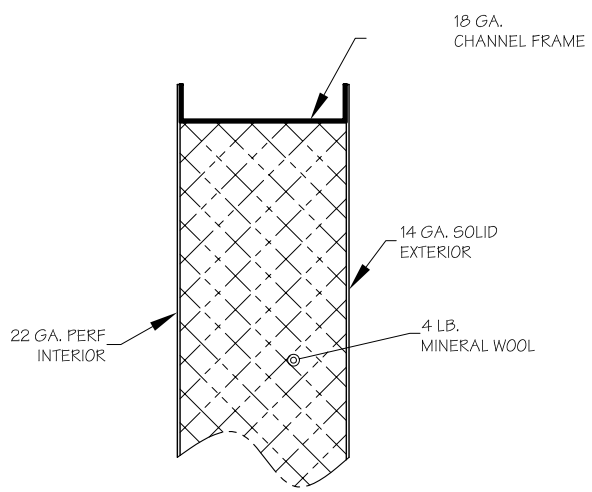
SECTION

SHOWING TYPICAL CORNER CONNECTION



SECTION

SHOWING TYPICAL SECTION
THRU PANEL JOINER



4" THICK PANELS
DYNO CONSTRUCTION

ROOM CONSTRUCTION DETAILS

I. Modular Wall & Roof Panels

A. INC 4" thick Modular Acoustical Panels are intended to be used in indoor applications requiring the construction of high STC acoustical test cells.
B. Modular panels shall be supplied in ready to use modules which are an all-welded box construction consisting of an internal welded panel frame, an outer solid steel face, and an inner perforated steel face with the space between filled with a sound absorptive material. Panels shall be manufactured by Industrial Noise Control, Inc. (INC) of North Aurora, IL or equal.

II. COMPONENT DETAILS

A: Steel Materials: All steel used in the panel construction shall be galvanized coated. Standard panels are electro-galvanized (EG) and may be painted without chemical wash. G-90 hot dipped galvanized is available as an option.

B. Internal Panel Frame: Shall be formed channel of 18 gauge sheet steel.

C. Solid Panel Face: Shall be 18 gauge sheet steel.

D. Perforated Panel Face: Shall be 22 gauge sheet steel perforated to an effective open area of 33 % using 0.093" diameter holes on .156" staggered centers.

E. Absorptive Fill: Shall be a 4" thick x 4LB density mineral fiber. Insulation shall meet ASTM C-423 Sound Absorption Coefficient of NRC-1.15. Insulation shall exhibit the following properties:

1.Surface Burning Characteristics (ASTM E84, NFPA 255 & UL 723):
Flame Spread = 0
Smoke Developed = 0

2. Water Vapor Sorption (ASTM C1104):
Less than 0.01% by volume.

3. Temperature Resistance (ASTM C 411):
Will not deteriorate up to +1200° F.

III. JOINT DETAILS

A. All panels are joined together using our one-piece steel H-Joiner.

IV. PANEL CONSTRUCTION DETAILS

A. Module Size: Available in 24", 36" and 48" wide manufactured in lengths up to 15'

B. Module Thickness: 4"

C: Welded Module Construction: Panels shall be constructed to retain their shape such that system components will fit together and function throughout the expected life of the structure and to allow dismantle and re-assembly a minimum of three times. The solid and perforated panel face sheets shall be spotwelded or cinch locked to the internal channel frame on all perimeter edges at 6" to 8" on center. Spotweld or cinch locks shall have a minimum shear breaking load strength of 1350 lbs and an approximate diameter of 0.250".

D. Internal Panel Reinforcement: When specified, an internal 18 gauge steel reinforcement channel shall be inserted between the solid and perforated face sheets, fastened to both, to provide additional panel rigidity.

V. PANEL ACOUSTICAL PERFORMANCE

A. All modular acoustical panels shall exhibit the following acoustical characteristics as tested and documented by an independent, accredited test laboratory.

1. Standard Construction Panel:

Frequency (hz)	125	250	500	1000	2000	4000	
STL(dB)	22	26	40	50	50	57	STC-41
Sound Absorption	.75	1.05	1.10	1.07	1.03	94	NRC=1.0

2. Hard Construction Panel:

STL(dB) 28 43 55 63 63 69 STC-52
Sound Absorption Not Applicable

VI. DYNO ROOM ENTRY DOORS

A. All dyno room doors are of similar construction as the wall panels in a 4" thickness and include full perimeter compression acoustical seals, automatic threshold seals, level swing hinges and non-locking lever latch set.

VI. PANEL STRUCTURAL CHARACTERISTICS

A. Standard Dyno Room panels are designed for interior applications.

1. Wall panels can withstand 40 psf lateral loads.

2. Roof panels, when assembled using H-Joiners can withstand a roof load capacity of 35 psf and will allow personnel access for maintenance, etc., but is not intended for storage.

3. For installation in seismic zones, additional seismic bracing and supports may be required.

IMPORTANT DISCLAIMER & LIMITS OF LIABILITY

1. General Scope of Supply

The Dyno Test Room scope of supply is limited to the four walls, roof, door, window and appropriate assembly components and hardware for the basic room packages. When an INC vent system is purchased our scope of supply terminates at the exit of the exhaust fan and the inlet of the inlet fan (or silencer if purchased) - all ducting beyond these points is to be designed and provided by the purchaser. Fan controls, wiring, lighting, etc., and all other electrical requirements are to be provided by the purchaser unless the INC electrical and lighting package is purchased in which case the purchaser is responsible for bringing and connecting the appropriate power supply the Dyno Test Room. All electrical components used in our Dyno Rooms are UL labeled, however, INC Dyno Test Rooms are not UL listed or fire labeled.

2. Permits, Assessments and Other Fees

The purchaser obtains and pays for all building permits, licenses, public assessments, utility connections, occupancy fees and other fees required by any governmental authority or utility in connection with the purchase, installation and use of the Dyno Test Room. The purchaser provides at his expense all plans and specifications required to obtain a building permit. It is the responsibility of the purchaser to ensure that all plans and specifications comply with the applicable requirements of any governing building authorities.

3. Code or Deed Restriction Compliance

INC dyno room components are designed and manufactured to meet generally used and accepted standards of industrial construction. However due to the wide interpretations given to design standards, building codes, zoning codes, and deed restrictions encountered in the construction industry, the Manufacturer (INC) does not warrant the Dyno Test Room to comply with any building or zoning code requirements, permit requirement, deed restriction, design procedures, design load, materials or equipment requirements, effect of (or on) existing structures, or fabrication procedures except those expressly set out in the Dyno Test Room order and specification documents. Costs of any additions, deletions, modifications, or changes that may be required to comply with such codes, procedures or requirements which are not expressly set out as stated, must be paid by the purchaser. When any size, shape, general characteristics or design criteria of a Dyno Test Room are specified to INC, INC is not responsible for the suitability, adequacy, or legality of the Dyno Test Room or its design.

4. Fire Safety Specific

All materials used in the construction of the Dyno Test Room are non-combustible and meet ASTM E-84 Class I(A). The components are not fire rated or fire labeled. We strongly recommend that the purchaser contact the appropriate local municipality to determine if the installation of the Dyno Test Room will meet existing safety and fire code requirements. PLEASE INSTALL A FIRE EXTINGUISHER INSIDE THE DYNO ROOM.

5. Seismic Specific

Depending upon the seismic zone of the purchasers location and the local code requirements, additional seismic supporting structure may be required for the Dyno Test Room. Costs of any additions, deletions, modifications, or changes that may be required to comply with such codes, and the cost of the additionally required support structure must be paid by the purchaser.

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CUSTOMER :	PROJECT : INC MOTORCYCLE DYNO TEST ROOMS	
DWG. TITLE : CONNECTIONS & DETAILS		
PO # :	DRN. BY : MJR	JOB : 2007-
NOT TO SCALE	5/1/2007	SHT. : 5 OF 5