INTRODUCTION

The intention in creating the Acura NSX, first introduced for the 1991 model year, was to produce a hand-built, exotic, midengine sports car that would establish entirely new levels of prestige, performance, refinement, drivability and reliability. The aluminum-bodied NSX is designed to represent an entirely new definition of the exotic sports car through state-of-the-art, lightweight technology.

As the NSX has evolved during the 1990s, it has been continually hailed as a technological showcase.

The NSX-T model introduced during the 1995 model year, which features a removable roof panel, broadened the appeal of the NSX. It also succeeded in maintaining the extremely high levels of performance and sophistication established by the NSX coupe. Technological achievements include an optional Formula One-inspired SportShift automatic transmission with a unique steering column-mounted electronic shifter; a drive-by-wire throttle system and standard variable, electric power-assisted steering (EPS), a compact and efficient system pioneered in the first-year NSX equipped with automatic transmission.

The 1997 NSX/NSX-T took a giant step forward in performance with several major enhancements — the most notable of being a larger, more powerful 3.2-L, 290 hp, V-6 engine with a 6-speed manual transmission.

Other significant engineering updates included larger brakes and improved Antilock Braking System, refinement to the Electronic Power Steering system, application of new aluminum alloys for lighter-weight, high-rigidity body panels, adoption of special heat-reflecting window glass and an antitheft vehicle immobilizer system.

For 1999 the NSX will continue as Acura's ultimate exotic sports car by combining world-class performance, styling and prestige with exceptional refinement, drivability and reliability.

CONCEPTS AND GOALS

In designing the original NSX, light weight was chosen as the core technological path to achieve best-in-class attributes:

- Top-rank performance equal to or greater than existing exotics
- Excellent livability—the NSX is as easy to live with as any other Acura
- Outstanding handling
- A high level of comfort and ergonomic design and low ambient-noise level;
- Reliability and durability equal to mass-produced automobiles
- Extremely high level of fit, finish and materials
- Limited production
- Excellent climate control system to keep the occupants comfortable under any weather condition

The NSX achieved all of the above and set new benchmarks for exotic sports cars. Goals for the NSX-T included all the original attributes of the NSX, plus the intangible excitement of open-air motoring. Priorities included:

- Excellent body rigidity for precise handling.
- Outstanding levels of noise insulation.
- Providing a convenient storage compartment for the roof panel.
- Minimizing wind buffeting at speed.
- Providing a security system that functions with the top removed.

OVERVIEW

The midengine, two-seater NSX offers two distinct powerplants. The standard engine is an all-aluminum 3.2-L V-6 that produces 290 hp and 224 lb ft of torque mated to a 6-speed manual transmission. An electronically controlled 4-speed automatic transmission with Formula One-inspired SportShift mode is optional and comes with an all-aluminum, 3.0-L V-6 that produces 252 hp and 210 lb ft of torque.

Both engines are normally aspirated and are equipped with dual overhead cams, four valves per cylinder, a Variable Valve Timing and Lift Electronic Control (VTEC) system, and a Variable Volume Induction System intake configuration. They also offer Programmed Fuel Injection (PGM-FI) and a direct-ignition system that uses six individual coils, one mounted atop each spark plug, instead of a single coil for all six cylinders.

The chassis features all-aluminum construction for light weight. The four-wheel independent double-wishbone suspension also features aluminum-alloy control arms and hub carriers front and rear to minimize unsprung weight for optimum handling. Aluminum subframes for the front and rear suspension further limit suspension mass. The braking system features large-diameter, ventilated four-wheel discs and an advanced four-channel Antilock Braking System (ABS). The sophisticated Traction Control System (TCS) has been designed to help limit wheel-spin and enhance control.

OVERVIEW

The standard engine on the NSX is an all-aluminum, 90-degree, 3.2-L (3179 cc), dual overhead cam, 4 valve per cylinder V-6 that produces 290 hp at 7100 rpm and 224 lb ft of torque at 5500 rpm. It is mated to a 6-speed close-ratio manual transmission. Redline is at 8000 rpm.

The optional electronically controlled 4-speed automatic transmission comes with an all-aluminum, 90-degree, 3.0-L (2977 cc), dual overhead cam, 4 valve per cylinder V-6 with 252 hp at 6600 rpm and 210 lb ft of torque at 5300 rpm. Redline is at 7500 rpm.

An exclusive electronically controlled Variable Valve Timing and Lift Electronic Control (VTEC) system optimizes volumetric efficiency at both high and low engine speeds. A unique Variable Volume Induction System changes the configuration of the intake system with varying engine speeds, working with the VTEC system to broaden the torque curve and increase peak power output. The 3.2-L engine boasts a stainless steel exhaust header system to improve engine breathing.

ENGINE BLOCK, CYLINDER HEADS, CRANKSHAFT, PISTONS

To achieve both light weight and durability, the engine block is made of aluminum alloy. While cast iron cylinder liners are used on the 3.0-L engine, the cylinders on the 3.2-L V-6 are made using an advanced metallurgical technique called Fiber Reinforced Metal (FRM), in which an ultra lightweight alumina-carbon fiber is cast into the traditional aluminum alloy for enhanced rigidity. This process not only allows displacement to be increased without increasing bore centers, it provides outstanding cooling characteristics.

ENGINE BLOCK, CYLINDER HEADS, CRANKSHAFT, PISTONS (continued)

The 3.2-L engine has cylinder bore surfaces consisting of a 0.5 mm-thick layer with fibers of carbon and alumina (aluminum oxide, or Al_2O_3) in the aluminum alloy. In production, the cylinder block's aluminum alloy is poured around cylinder cores composed of these two fibers. The cores absorb the molten aluminum during the casting. After casting, the cylinders are bored to a slightly smaller diameter than the outside diameter of the cores, leaving a tough, wear-resistant, composite cylinder wall integral with the block but reinforced by the fibers. The process allows larger bores within the same external block dimensions and bore spacing, and makes open-deck block construction possible. This is appropriate for the 3.2-L NSX engine's higher performance level. The elimination of iron cylinder liners, allows a weight reduction of 2.4 kg for the larger displacement engines.

In the 3.0-L engine, conventional aluminum pistons are used. However, because aluminum-on-aluminum is not an ideal combination for durability with a piston sliding in a cylinder, the 3.2-L aluminum pistons are given an iron coating. The piston crown has been reshaped to improve heat resistance, and the pin diameter enlarged to cope with the higher power output.

The crankshaft on the NSX engine is a forged unit made of a special high-strength steel to cope with the high power output of both engines.

The cylinder heads are low-pressure cast aluminum. To increase flow into the combustion chamber in the 3.2-L engine, the intake valves have been increased by 1 mm to a 36 mm diameter. Even though the valve diameter was increased, a unique cup shape was incorporated into the valve head to allow it to maintain the same weight. To further increase air flow, by creating a gentle radius leading from the intake port into the combustion chamber, a special four-angle valve-seat machining process is used — a process typically reserved for racing applications. The head gasket on the 3.2-L V-6 is now made of stainless steel to ensure a positive seal with the new FRM cylinders. The combustion chamber for both engines is a pent-roof design with generous squash area to promote swirl and enhance combustion efficiency. The spark plug is centrally located for optimum flame propagation and features a platinum tip for improved durability and longer service life.

TITANIUM CONNECTING RODS

The connecting rods are made of a specially patented titanium alloy. While titanium rods are common in Formula One and other race engines, this is the first application of titanium rods in a production car. Compared to a steel connecting rod for the same engine, these titanium rods each weigh 190 g less and are significantly stronger. To cope with the increase in power, the 3.2-L engine's piston pin diameter has been increased by 1 mm (from 22 mm to 23 mm), while the crankshaft pin diameter was increased by 2 mm (from 53 mm to 55 mm).

To accommodate the larger crankpin diameter, the connecting rod bolts were moved 1 mm farther apart and incorporate a new, high-strength design. The rod bolts used are actually stronger, yet 1 mm smaller in diameter and 20 percent lighter than those previously installed.

VARIABLE VALVE TIMING AND LIFT ELECTRONIC CONTROL (VTEC) SYSTEM

Without question, the Variable Valve Timing and Lift Electronic Control (VTEC) system is recognized as a breakthrough in engine technology. It convincingly solves the age-old trade-offs between low-end torque and high-end power.

The heart of the VTEC system is a unique camshaft and rocker arm system. For each cylinder's set of two intake (or exhaust) valves, there are three rocker arms and three corresponding lobes on the camshaft. The two outboard lobes each have a profile suited for low- to mid-rpm operation. The third or center cam lobe has a dramatically different profile designed for longer duration and higher lift. This lobe profile is designed to optimize breathing and hp production at high engine speeds. At low engine rpm, the valves are operated by the outboard lobes. During high-speed operation above 5800 rpm, the VTEC computer sends a signal to a spool valve, which in turn delivers engine oil to small pistons in the rocker arms. Oil pressure causes the pistons to slide, locking all three rocker arms together. Once locked, the rocker arms are forced to follow the center cam lobe, increasing top-end performance. The crossover from low lift to high lift occurs in 0.1 seconds and is virtually undetectable to the driver.

VARIABLE VOLUME INDUCTION SYSTEM

In addition to VTEC, the NSX engine also uses a Variable Volume Induction System. This system uses a separate intake air plenum, located beneath the main intake manifold. This second plenum is separated from the primary manifold by 6 butterfly valves, which open between 4600 and 4900 rpm and are actuated by manifold vacuum.

When the valves open, the added volume of the secondary plenum creates a higher resonance frequency, which in turn creates a sonic pressure wave. This sonic pressure wave hits each pair of intake valves just as they open, promoting more rapid and complete cylinder filling. This system was designed to work in concert with VTEC to improve both low-end torque and high-rpm power.

FUEL INJECTION

Programmed Fuel Injection (PGM-FI) ensures that each cylinder receives the precise amount of fuel necessary for the present load and speed conditions. This system has been specially tailored to the unique capabilities of the induction and VTEC systems. An air-assist mechanism aids fuel atomization for better combustion at low temperatures. To provide additional fuel for the new 3.2-L V-6, the flow rate of the injector has been increased by 15 percent.

ONBOARD DIAGNOSTIC SYSTEM (OBD-II)

An onboard diagnostic system incorporated into the engine-management-electronics system records and stores information on engine systems and operation. These can be retrieved through the diagnostic port to facilitate maintenance and repair.

EXHAUST SYSTEM

The NSX features a lightweight, highly efficient exhaust system. On the 3.2-L V-6, the exhaust manifold is made of stainless steel header pipes, rather than a cast-iron manifold, for improved performance and lighter weight. Increased flow from this configuration is a key contributor to the 20 additional hp drawn from this engine.

The catalytic converters displace 1.14 Ls and are close to the engine for quick converter light-up and a consequent reduction in emissions without any sacrifice in power output. The overall weight of the unit has also been minimized by using spherical joints in the exhaust system rather than conventional flexible tubes.

DIRECT IGNITION SYSTEM

To ensure a hot, stable spark at high rpm operation, the ignition system has a coil mounted atop each spark plug, a design similar to that used in Formula One racing engines.

MANUAL TRANSMISSION

A compact, close-ratio six-speed manual transmission is designed to provide short shift throws and quick, precise response. Dual-cone synchronizers are used on first through fourth gear to reduce shift load from 40 to 50 percent for quicker, smoother shifting. Reverse gear is also equipped with synchromesh. To increase performance while maintaining excellent fuel economy, the five first ratios have been lowered while sixth gear is seven percent higher than fifth gear in the previous NSX. A reverse lock-out solenoid ensures proper gear selection when shifting into sixth gear. The transmission is also designed for outstanding durability in the high-performance application.

"HEAVY-DUTY" CLUTCH

To handle the high torque and power output of the 3.2-L V-6, a dual-mass flywheel clutch system was developed. The design involves a split flywheel that incorporates a grease-lubricated wide-angle torsion mechanism. Gear rattle is effectively minimized because the system is specially tuned to the NSX drive system. Clutch performance is maximized by a high-performance friction material on the low-inertia mass clutch disc while the relocation of the torsion mechanism to the flywheel side helps retain a light clutch feel.

SPORTSHIFT AUTOMATIC TRANSMISSION

The optional SportShift four-speed automatic transmission allows the driver the option of letting the transmission shift automatically in a conventional manner or selecting each gear manually by means of a fingertip-control shift lever on the steering column. Inspired by advanced Formula One transmissions, this dual-mode system was created to give the driver of an automatic the same sporting performance feel of a manual. Unlike some other similar systems, this one allows the driver to keep both hands on the wheel while selecting a gear. This feature adds to the safety of the vehicle by allowing the driver to concentrate his full attention on the road ahead.

The shift quadrant (PRNDM21) is depicted on the tachometer. SportShift mode is engaged by selecting the M, or manual, position. In M mode, the shift position is illuminated in a window to the right of the shift quadrant. To shift up, the fingertip control lever is moved up, and to shift down, the lever is moved downward. The CPU (central processing unit) is programmed to prevent any downshift that would cause the engine to over-rev.

Precise automatic transmission shift programming has resulted in minimal shift shock when downshifting during deceleration, maximizing the potential of the Traction Control System (TCS) and drive-by-wire throttle system.

The automatic is also equipped with a programmed lockup torque converter to improve fuel economy and reduce slippage. In the SportShift manual mode, lockup is available in second, third and fourth gear during both acceleration and deceleration.

DRIVE-BY-WIRE THROTTLE

The drive-by-wire throttle system replaces a conventional throttle cable arrangement with an all-electronic system that senses the throttle pedal position and relays that information to a computer. The computer, in turn, performs the actual throttle activation instantaneously. The system works by means of a throttle pedal sensor, a throttle angle sensor, an electronic control unit and a step motor to control throttle opening and provide fail-safe throttle operation. It works in harmony with the TCS to provide a broad range of control. This system also helps to enhance the precision of the cruise control system.

OVERVIEW

Outstanding handling characteristics have been a hallmark of the NSX and NSX-T since their inception. A sophisticated all-aluminum double-wishbone suspension provides outstanding ride and handling, while large, four-wheel disc brakes and a four-channel Antilock Braking System (ABS) help ensure secure stops.

In addition, the NSX's revolutionary variable, electric-power-assisted steering system provides excellent road feel and easy operation.

SUSPENSION

The desired goals for the NSX suspension went well beyond the typical goals of high lateral adhesion, transient response and linear response to control input. The engineers wanted a suspension that allowed the driver to easily control the car right to the limit, particularly with the more powerful 3.2-L V-6 engine.

The basic configuration is similar to that of a Formula One car in that it employs an upper and lower control arm (or double-wishbone) design with a coil-over shock absorber and stabilizer bar front and rear. The rear suspension has an additional transverse link for greater wheel control. All the suspension arms are made of extremely lightweight rigid and durable forged aluminum. The front steering and the rear hub carriers are also made from heat-treated aluminum castings. The springs are straight rate with an extended rubber bump stop mounted on the chassis, which acts as a progressive springing element at the limit of wheel travel.

The shock absorbers are nitrogen-filled and feature a unique progressive valve design. The progressive opening of this valve produces a more favorable damping profile, and more precise damping control, than a conventional valve system in which the fluid-control orifices are either fully opened or closed.

The front and rear suspension components are mounted on separate aluminum subframes using rubber bushings designed to reduce vibration yet limit flex and shift of the suspension components relative to the mountings.

The suspension development program was far-ranging and took place at Honda's Tochigi Proving Grounds and the Suzuka Circuit in Japan, the 179-turn Nurburgring course in Germany, the Honda Proving Center of California (HPCC) and Honda's newest test track in Takasu, Hokkaido. In addition to the standard evaluations conducted in-house by the suspension engineers, the car was subjected to evaluation by top-rank drivers such as the late three-time Formula One World Champion Ayrton Senna and Formula One driver Satoru Nakajima.

BRAKES

The NSX is equipped with four-wheel ventilated disc brakes and dual-piston steel calipers. The diameter of the brake discs is 298 mm in the front and 303 mm in the rear. The combination of large rotors and flex-resistant dual-piston calipers allows the engineers to achieve the ideal braking system balance. The braking targets were to provide outstanding braking performance, excellent pedal feel, linear braking response and low pedal effort. Splash guards with cutouts aid in air ventilation and enhance fade resistance.

FOUR-CHANNEL ANTILOCK BRAKING SYSTEM (ABS)

The 4-channel Antilock Braking System controls each wheel independently with a 16-bit microprocessor. This four-wheel independent capability allows finite control of the antilock function, especially when the car is braking on a surface with a split coefficient of friction—for instance, if the left side wheels are on snow, ice or standing water, and the right side wheels are on dry pavement.

The basic configuration uses independent, parallel hydraulic circuits. In addition to the primary, non-antilock braking circuit, the antilock system has its own hydraulic reservoir, pump, modulator unit, solenoids and control pistons. If a failure in the ABS hydraulic circuit should occur, normal braking force would be fully retained by the primary braking circuit.

ELECTRIC, VARIABLE, POWER-ASSISTED STEERING SYSTEM

This power-assisted steering system was the first of its kind in the American market. The system consists of a rack-and-pinion steering gear with an electric motor installed concentrically around the steering rack. The steering system is a direct design which functions with no assist at higher vehicle speeds. A speed sensor in the electronic control unit determines road speed and, coupled with a new torque-sensing system, feeds a signal to the motor. To ensure reliability, the electrical system for this unit features gold-plated connectors. All NSX models feature this electric, power-assisted steering system.

FORGED ALLOY WHEELS

To reduce unsprung weight, and provide the highest strength possible, the engineers specified forged-aluminum alloy wheels. To enhance the look of the wheels, they have been machine-finished, then clear-coated. The result is a very light wheel with the strength and impact resistance of a much heavier steel wheel. The rear wheels are 8.5 x 17 in, and the front wheels are 7.0 x 16 in.

TIRES

The suspension engineers, working in conjunction with Yokohama Tire Company and Bridgestone Tire Company, sought to produce tires that would not only provide excellent traction and handling, but also allow the driver to "feel" the limits of the tires' performance.

The resulting NSX-specific tires were remarkable, meeting all the high-performance targets the engineers established early in the program.

The NSX is equipped with wide, low-aspect-ratio tires, front and rear, for more responsive handling and increased cornering capability. The tire sizes are 215/45 ZR16 front and 245/40 ZR17 rear. These tires provide excellent wet- and dry-weather traction, high-speed stability and immediate and predictable reaction to steering input.

OVERVIEW

A rigid structure is of paramount importance in a performance car. High rigidity provides a stable platform for proper suspension geometry and alignment, and it makes possible a tight, rattle-free interior. Additionally, central to the goal of performance is a favorable power-to-weight ratio, which has been improved by 30 percent with the new 3.2-L V-6. As a rule, a very light car can achieve high performance levels with less hp. After an intensive research effort, it was determined that the most efficient way to meet the rigidity and weight targets for the NSX was to build the body exclusively of aluminum.

Using a Cray supercomputer, the engineers performed millions of Finite Element Modeling (FEM) and stress analysis calculations. The result of this research and development effort is a chassis that weighs 210 kg (462 lb) with doors, hood and deck lids installed—about 40 percent less than a steel chassis, but with the same rigidity and impact protection. The NSX structure is significantly stiffer than every other competitor currently on the market.

To counter the small weight increase of the 6-speed transmission and larger brakes, key body parts are made with a newly developed 6000 series aluminum alloy that is up to 50 percent stronger, thus requiring less material to perform effectively. This thinner, lighter-weight material is used in making the doors, fenders, and front and rear deck lids, among other key parts of the NSX. For example, by using this high-strength alloy, thinner doorskin material netted a 2.2 kg (4.9 lb) weight reduction without any sacrifice in strength.

BODY REINFORCEMENTS

To maintain high rigidity in the body, even with the roof panel of the NSX-T removed, extensive reinforcement measures are employed throughout the body. Required reinforcement includes a side sill aluminum-extrusion design that involves significantly thicker wall sections. Other reinforced areas include the base of the B-pillar where it joins the rocker panel, a larger rear bulkhead crossbar and a thicker trunk leading-edge panel. In addition, thicker wall sections can be found in a reinforcement web in the rear floor cross member, and there's an additional rib in the center rear bulkhead section, a redesigned and thicker walled rear roof-rail section and a redesigned front roof-rail section with increased wall thickness. More reinforcements include a completely redesigned and thicker upper A-pillar, a redesigned and thicker upper-dashboard cross-member and a redesigned front lower floor section with increased wall thickness.

EXTRUDED ALUMINUM SIDE SILLS

To attain a structure of high rigidity, complex aluminum extrusions were used for the crucial side sills of the unit body. These extrusions, with their carefully braced internal structure contribute to the extremely high torsional stiffness of the NSX.

REMOVABLE TOP

The removable top is made of aluminum for light weight and durability. The roof panel is body-colored and is easily removed by means of two latches located on the left and right side. Its light 8.5 kg weight makes it easy to remove and stow away. A dash-indicator light alerts the driver if the latches are not properly closed. Once removed, the panel is stored under the rear glass hatch and the hatch can be locked with a key for security. Since the top has its own storage compartment, it doesn't use any of the available trunk or interior space. In addition, the vehicle security system functions with the top removed as well as in place, sensing any intrusion through the open roof.

RADIUS FRONT FRAME RAILS

To maximize occupant protection, the front frame rails of the unit body are designed with large-radius curves where they meet the passenger cabin. This design helps to dissipate energy in the event of a collision, spreading out impact loads and diverting them under the passenger cell.

CONCEPT AND GOALS

The objective was to create an interior that was the sports car equivalent of a jet fighter pilot's helmet. The key elements of this concept were unlimited visibility, a feeling of snugness or intimacy with the interior of the vehicle and the sense that the cockpit and driver were out in the airstream rather than enclosed and isolated from the environment. To achieve this feeling, the seating space for the driver and passenger was designed to fit snugly at the hips and flow outward and upward to provide ample space for the head and shoulders.

SEATING POSITION AND VISIBILITY

A low seating position contributes to a low center of gravity and helps to reduce the vehicle's frontal area for improved aerodynamics. Ordinarily, a low hip-point would impart to the driver the feeling of being buried in the interior and could lead to a claustrophobic feeling. To avoid this, the body engineers created a very low cowl section, which allowed them to lower the height of the dash and instrument panel. The low cowl also enhances forward visibility.

INSTRUMENTATION AND CONTROLS

In designing the instrument panel, the approach was one of simplicity. Since the primary function of the instruments is to relay information as clearly and quickly as possible, the designers opted for a traditional analog execution. The instrument faces are round with white numerals on a black background. The instrument panel is dominated by the tachometer on the left and the speedometer on the right. To the left of the tach are the smaller water temperature and oil pressure gauges. To the right of the speedometer are the fuel gauge and voltmeter.

All the major controls are clustered around the steering wheel column to make them easy to reach.

Additional features unique to the NSX-T include a dash light alerting the driver in the event the roof panel isn't fully latched and a locking mechanism for the roof-panel storage compartment.

NSX-T WIND PROTECTION

The windshield header of the NSX-T has a special aerodynamic design that directs the airstream up and over the passenger compartment to minimize wind buffeting at speed. It's also equipped with smaller sun visors to enhance visibility.

The NSX and NSX-T use special highly efficient UV-absorbing green glass to help keep the effects of solar loading on interior temperatures at a minimum in hot weather.

DUAL AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS) WITH AUTOMATIC SEAT BELT TENSIONERS

The NSX is equipped with driver's and passenger's Supplemental Restraint System (SRS) air bags, which are intended to supplement the seat belts. In conjunction with these, the NSX features automatic seat belt tensioners that use the same impact sensors as the air bags. The belt tensioners are activated simultaneously with the air bags, causing each belt to retract to help restrain the occupants in the event of a moderate to severe frontal collision.

LEATHER-TRIMMED UPHOLSTERY

Leather was a natural choice for the seat trim material; it is hand-stitched and hand-fitted to ensure quality craftsmanship and durability. The seat facings, door inserts, steering wheel and shift knob are all covered with leather.

AUTOMATIC CLIMATE CONTROL SYSTEM

A compact Climate Control System has been developed specifically for the NSX. This is a fully automatic system, but the automatic function can be overridden, and the system can be used in a fully manual mode. The system uses environmentally friendly R134A refrigerant.

ACURA/BOSE® MUSIC SYSTEM

Bose® engineers became involved with the NSX sound system at an early stage of the car's interior design. This four-speaker system was designed and calibrated specifically for the unique acoustics and resonances of the NSX interior and provides the highest quality imaging and spatial dynamics for both the driver and the passenger.

The Acura/Bose® Music System speakers are precisely aimed so that the pressure wave of the speaker closest to each occupant does not overpower the pressure wave from the speaker that is farthest away. This produces a balanced sound from each speaker, and the net result is true stereo performance.

The AM/FM stereo with cassette features Dolby® Noise Reduction and an FM diversity antenna system. The auto preset function will automatically lock on eight strong AM and eight strong FM stations and store them into the preset selector buttons. An optional CD changer is available.

THEFT-DETERRENT SYSTEM

A sophisticated alarm system is standard equipment on the NSX. If an unauthorized attempt is made to enter or start the NSX, the horn sounds, the flashers are activated and the starter system is disabled. The system automatically arms 15 seconds after the doors are locked and is disarmed when a door is unlocked with the key. The system will operate even with the removable roof panel removed from the car.

SECURITY/IMMOBILIZER SYSTEM

A special electronically coded key prevents the car from being started, even if a mechanical duplicate of the proper key shape is used. A transponder built into the key signals the immobilizer control unit that the key is genuine. If the car is hot-wired, or an unauthorized key is used, it simply will not start. This system is a substantial deterrent to theft. In New Jersey, for example, insurance premiums have been reduced as much as 15 percent when such a system is used.

MANUFACTURING

The central and clear goal behind the design of the unique NSX assembly plant in Tochigi, Japan, is to produce the highest quality automotive product in the world.

This plant has no automated conveyor line. Rather, each car is mounted on a dolly and pushed by hand from one workstation to the next. Each team of workers is responsible for the quality of work performed at their station. The car is not passed on to the next area until the team is satisfied that their procedures have achieved the tolerances and goals required in the specifications. Each assembly station, in effect, also functions as an inspection station.

Engine assembly is also done in a unique way to ensure the highest level of assembly quality. Contrary to typical mass production procedures, each NSX engine is assembled by an individual, highly skilled technician from start to finish. This process keeps tolerances to levels that would not be possible in a mass assembly procedure and helps assure reliability and durability.

PAINTING

The NSX is painted in a 23-step paint process, including an aircraft-type chromate coating designed for use with aluminum. A waterborne paint for the base coat was developed to achieve a clearer, more vivid color and a smoother surface finish.