Tour numbers are assigned at time of purchase of tickets, and later announced over the Public Address System. During your tour you will be listening to a taped commentary and live comments from your thoroughly trained Driver-Escort. Throughout the tour, many portions are silent so you may visit with your seat companion; at other times it is requested that conversation be held to a minimum so others may hear the commentary. Many opportunities are provided during the tour for picture taking, and it is recommended that you take your cameras and binoculars along. Rest Rooms are regularly available only at the Visitor Information Center.

Food and beverages are not permitted on the bus. No smoking allowed on buses.

Florida state law **prohibits** the admission of pets inside buildings or on the tour buses. A free kennel service is provided at your request.

Additional information can be obtained at the Ticket Counter.

- FOOD SERVICE Various pre-packaged snack items are available in this building with limited seating available in the Patio Area.
- SOUVENIR SHOP This shop contains various spaceoriented items including film and publications.

WEST BUILDING

- MOVIES Begin at 0930 each day (seven days per week), last about one-half hour and contain information on such subjects as launches, NASA projects, etc. The film is repeated every forty-five minutes.
- LECTURES Space Science Demonstration are conducted at various intervals throughout the day, Monday through Friday. These programs are designed to give first-hand knowledge on rocket propulsion, manned space flight, and equipment used in these programs. Programs are announced.

You may also view exhibits of spacecraft and launch vehicles as you stroll through the Visitor Information Center. All of the above are available to the general public without charge.

NASA and TWA hope your visit will be educational, enjoyable and rewarding. You are cordially invited to return.

NASA Tours KENNEDY SPACE CENTER

VISITOR'S NOTE — NASA Tours offers an adult discount to people who return to the Space Center within the same calendar year. Two full fare paying adults must accompany the bearer of the repeat Visitor Identification Card before the \$1.00 fare can be applied. Additional information on acquiring the identification card can be obtained at the Information Desk in the Visitor Information Center.

Charter and convention groups Call Reservations, 305-269-3000, or write NASA Tours, P. O. Box 21222, Kennedy Space Center, Florida 32815.





NASA Tours - Visitors Information Center - 6 mi. east of U. S. 1 - only public entrance to John F. Kennedy Space Center.

INFORMATION BROCHURE



The national space program was initiated in 1958 to acquire knowldege of the Universe and to make use of this new technology for mankind's benefit. Four Presidents of the United States and succeeding Congresses have continued the program because it is basic to the national interest and to our leadership in the Free World.

Recognizing the keen interest of U.S. citizens, and those of allied nations, in the continuing exploration of outer space, the National Aeronautics and Space Administration, in cooperation with the Air Force Eastern Test Range, opened the Center to daily guided bus tours on July 22, 1966. The visitors program is conducted by TWA, Trans World Airlines, for NASA. Interested visitors from all over the world have already enjoyed the tour and attendance is increasing steadily. The public has the option of touring the Center in private autos Sundays only from 9 A.M. until 3 P.M.

This brochure will afford a general idea of features available to you at the Visitor Information Center.

EAST BUILDING

TICKETS AND INFORMATION — Bus tours are available at regular intervals throughout the day, with the last tour departing two hours and fifteen minutes before sunset, which varies according to season.

TOUR PRICE SCHEDULE

Adult	\$2.50
Youth (12 to 18 yrs.)	\$1.25
Children (3 to 11 yrs.) when accompanied	
by an adult	\$.50
Active Duty Military Personnel	\$1.25

The tour requires **approximately** 2 hours and 15 minutes The tour route is subject to change depending upon NASA and Air Force launch tests. **Some** of the major facilities you will see are listed. Refer to map above for these locations.

- 1 Apollo Astronauts Training Building
- 2 Mission Control Center (Cape Kennedy)
- 3 Air Force Space Museum (Cape Kennedy)
- 4 Cape Kennedy Launch Complexes
- 5 Apollo Launch Complexes 34 and 37
- 6 Apollo Lunar Launch Pads, Complex 39
- 7 Crawler-Transporter
- 8 Apollo/Saturn V Assembly Building





Dear Member of the Press:

Everyone on a railroad can't be an engineer, and everyone on an sirline can't be the pilot. Nor can every contractor at Kennedy Space Center build a command or lunar module or every employee be an astronaut.

It takes many people doing many things to keep a plane in the air, and you can imagine the gigantic support effort it must take behind the scenes when the NASA-Industry team sends astronauts into space for a moon landing.

Trans World Airlines in number of employees is NASA's single largest contractor at KSC. TWA's assignment is to render support services.

Some of these jobs are simple, and others are very complex. They range from waging war on the breeding grounds of the mosquito to double checking the water the astronauts take with them into space.

TWA fills supply requests at KSC for NASA and its other 12 prime contractors and their subcontractors that range from pencils and paper to bringing in launch critical spare parts for spacecraft.

The following pages offer you capsule summaries of what is involved in TWA's massive launch support role, and what happens when an airline asks for and gets this job.

> Tom Winfield Manager-Community Relations Trans World Airlines, Inc. Washington Plaza-U. S. Hwy. 1 Titusville, Florida 32780

Phone: Area Code 305 267-5377 632-7400 The Big Picture

The three contracts held by Trans World Airlines at Kennedy Space

is government contract operations di

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over dills Plant Engineering and Maintenance shut

1. The Big Picture

1.

The three contracts held by Trans World Airlines at Kennedy Space Center come under TWA's government contract operations division. The airline also does support work in Kurat, Thailand for the U.S. Army.

Nine men were sent to Brevard County on Valentine's Day in 1964 to start what would lead to three separate contracts with NASA employing 3,300 people. These contracts annually are worth about \$36 million at this time.

The largest contract--involving about 3,000 employees--is base support services. Under this contract, TWA subcontracts to The Wackenhut Corporation for fire control and security, and to Aircraft Services International for cleaning services.

TWA also was awarded a medical contract to operate Occupational Health Services, which is something very much like an out-patient clinic that also is involved in Environmental Health.

The third contract is operation of NASA Tours, involving handling of a million visitors this year and running the Visitor Information Center. Here, TWA subcontracts to Greyhound for driver-escorts and buses.

The work done by TWA or subcontractor employees is mostly a logical extension of jobs performed daily in keeping an airline operating. Instead of a terminal, it's the Visitor Information Center. Instead of a hangar, it's Plant Engineering and Maintenance shops.

Lunar Modules, and noise and light levels around KS

r.

-more-

Over at Supply--called Logistics--there may be missile parts instead of 747 components. Instead of a runway, there are roads. One major deviation from airline tasks is operating the Electrical Utilities System. This is one of the most "launch critical" jobs performed. The airline went outside its world-wide staff of 60,000 to find people to run this operation as TWA wasn't in the electric power business.

About 23,000 people work in and around KSC with about 18,000 who come aboard each day to work. KSC becomes a city of three working shifts dedicated to space flight. TWA's job is to help NASA keep that city running smoothly. TWA primarily does the basic work that must be done to keep the space city functioning.

There are police, firemen, sewage plants, heat plants, air conditioning systems, supplies, highways, painters, doctors and nurses. <u>But because KSC</u> isn't an ordinary place, all of TWA's assignments aren't ordinary, either.

For instance, the TWA/Wackenhut team trains astronauts, spacecraft personnel and support personnel in fire rescue procedures involving the Saturn V on the pad.

The nucleus of the volunteer astronaut rescue team that stands by at the Slide Wire Bunker ready to rush to the Pad in case of an emergency before liftoff comes from this same TWA/Wackenhut group.

The Environmental Health section gets involved in double checking the water the astronauts will take with them onto the moon's surface for bacteria, and monitoring radiation levels inside the Command and Lunar Modules, and noise and light levels around KSC.

The following information offers a closer look at what it takes to run a space center. 2.

2. Astronaut Rescue and Training

An astronaut rescue team with 11 TWA/Wackenhut volunteers and three medical technicians sent by the Department of Defense, train about 40 hours a week for three weeks before a launch. Their mission is to wait inside three armored vehicles at the Slide Wire Bunker 2,400 feet away from the Pad. If everything goes right, they're still sitting inside the vehicles when the Saturn V ignites and rumbles skyward atop 7.5 million pounds of thrust. The decible level at the bunker has at times reached 142 and the 10-ton vehicles have shook to the point the rescue team described it as like a minor earthquake. The decible level considered dangerous is about 90 but it must be coupled with high frequency sound waves. The waves from the Saturn V are low. 3.

In case of a Pad emergency before ignition, the team goes into action on radio signal from the firing room. In about five minutes they can cross the open ground (top speed is 35 mph), take high speed elevators to the Command Module and remove the astronauts.

The next step is to get to safety. If the team, now including the astronauts, is prevented from using the elevators, they use a dolly at the 210-ft. level of the Pad. It travels down a slide wire 2,400 feet to the bunker where they get into an armored vehicle and head for a rendezvous with helicopters 7,000 feet away from the Pad.

But if they can use the elevators, they will, and if the situation calls for it when they reach the base of the launch platform they can use a slide chute to slide down into the blast room beneath the Pad.

-more-

Later, should the rescue team and astronauts or anyone else who sought the safety of the blast room find they are unable to get out, a TWA "dig out" crew goes into action. 4.

The TWA/Wackenhut fire control group also trains astronauts, spacecraft personnel and other contractor support employees working at the Pad in how to fight fires and rescue people. The astronauts and the Pad closeout crew get four hours training. TWA/Wackenhut figures the four hours won't make firemen out of the trainees, but at least they'll know how to use fire fighting equipment or resuscitators for the injured until the fire department--which is standing by near the Pad--can get there. Support personnel such as TWA's emergency repair response crew receive abbreviated two-hour courses.

3. Moon Water and Other Health Services

The water to be taken to the moon's surface in the Lunar Module is cleansed with iodine that TWA health engineers inject to destroy bacteria. Iodine is used because chlorine--used to cleanse water in the Command Module--is more corrosive.

Spacecraft contractors prepare the astronauts' water, taken from the City of Cocoa water system. TWA's job is to go into the spacecraft, take samples, and check them in the lab against dissolved minerals commonly found in everyday drinking water, and especially against bacteria. Samples are also sent to Houston for further checks made by NASA. These checks continue until about 24 hours before liftoff.

-more-

The gun-like water nozzle the astronauts pull on to get their drinking water undergoes especial cleaning under prime conditions with special equipment in the lab at KSC. 5.

The water the astronauts take with them in the Command Module lasts a relatively short period, and is replaced by water manufactured by fuel cells. To this new water, the astronauts must add their own chlorine. But the iodine is added at KSC to the water carried onto the moon in the Lunar Module. This will become drinking water and also will be used to refurbish the backpack cooling systems worn by Astronauts Neil Armstrong and Buzz Aldrin while they explore the lunar surface.

Another job for TWA health engineers at KSC is monitoring radiation levels inside the spacecraft using geiger counters and wipe pads. These pads are taken to the lab to see if there is any radioactivity. There are about 200 separate sources of radiation inside the spacecraft, including all the luminous switches.

When the lunar experimental packages that will be left on the moon are aboard, Plutonium becomes a major possible source of a radioactive leak. Plutonium is used to heat the packages at night when temperatures can drop to minus 250 degrees.

These health engineers also have the job of checking KSC areas against toxic dusts, mists or fumes and measuring noise levels.

The other side of the Medical contract last year performed 10,000 physical examinations and made 35,000 treatments. They check into possible water and air pollution, solid waste and refuse disposals systems and the use of pesticides for pest control.

4. Light Bulbs and Other Statistics

6.

There are 258,000 light bulbs at KSC. Of these, about 5,000 ordinary bulbs are changed a month, and 15,000 to 20,000 fluorescent bulbs.

This job is handled by a team of light bulb replacers that makes a regular, scheduled round of the area.

TWA also is involved in maintenance and operations of 233 mobile trailers, 375 buildings and facilities (a facility might be a parking site for the Launch Umbilical Tower or a radar installation), 129 air conditioning systems (25,450 tons capacity), 10 sewage plants, 11 heating plants, 235 miles of roads (125 paved), 1,200 pieces of heavy equipment, 1,850 electric poles, water plants disbursing 1.2 million gallons a day that is consumed from 44 miles of water lines, 77,000 lineal feet of fencing, keeps up 718 trees marked for maintenance and 10,500 plants, 322 miles of ditches and canals, 17 elevators and 30 "clean rooms" where special testing is done.

And there are 177 fire hydrants, 18 fire sprinkler systems, 566 automatic fire alarm systems, 4,466 fire extinguishers, 52 manual fire alarm systems, 69 ionization fire detection systems with two fire alarm monitoring consoles. There is 4.4 million square feet of working area to cover, and the entire reservation encompasses 88,000 acres.

TWA's 3,300 employees are part of the 9,900 at KSC working for NASA in the Space Program. TWA is the largest employer at KSC.

Other contractors include Bendix, providing support services for Launch Complex 39; Federal Electric providing instrumentation, date

-more-

acquisition and processing and communications support for KSC; LTV providing publications, photography and reproduction services through its subsidiary Service Technology Corporation and its subcontractors Technicolor Corporation, and McGregor & Werner, Inc.; General Electric Company furnishes services and equipment for checkout and integration of manned spacecraft as well as other support services; Catalytic-Dow provides engineering support and modification services for launch, test, lab and supporting facilities. 7.

5. The Locksmith

Need a lock opened? One of the three men working the three shifts at KSC can do it. He's a TWA/Wackenhut employee. When the key-locked cover of the Launch Escape System is removed inside the Command Module before liftoff, one of the locksmiths is standing by on the Pad. If the lock gives trouble, he's called into action.

6. Moving the Crawler Transporter

When the six million pound crawler moves, it moves on four tracks each larger than a Greyhound bus. As the crawler moves beneath the Mobile Launch Tower cradling the Saturn V inside the VAB, it travels over a concrete floor and must be positioned just so in order to lift the 12

-more-

million pound load and carry it to the Pad. TWA workmen lay 180 slabs of 4 x 8 one-quarter inch plywood over the floor to keep it from crumbling, and apply a soap-like flax with a consistency of one-eighth inch over the plywood. The flax makes it much easier to position the tracks of the crawler. The journey to Pad A is about 3.5 miles slightly less than an hour over the 130-ft. wide crawlerway that is eight feet thick topped with river rock to give it elasticity. TWA road crews keep 424,000 square yards of this rock smoothed and graded to make level the crawler's path to the Pad and to prevent the rock from compacting. The crawler moves over the crawlerway to and from the pad and parking areas for the MSS and launch towers 14 times in the course of a launch.

8.

7. Fresh Air For Astronauts

TWA workmen man the "dump valves" that if necessary would open to rush fresh air into the altitude chambers in the Operations and Checkout Building where manned tests of spacecraft take place under simulated space conditions. Should it become necessary, the environment in the chambers might have to be changed from that of outer space to normal earth conditions in a hurry. These chambers are cleaned by TWA crews using demineralized water to dampen their special wipe rags of cellulose that feel like foam rubber. This cleaning has to be done at times to "black light" specifications--that is, a special light is used that would make lint or dust luminous if it is present. The spacecraft and other equipment used in these tests are so sophisticated that dust and lint could cause them problems.

8. Pencils and Missile Parts

9.

KSC Supply, operated by TWA, dispenses 50,000 different items filling 60,000 requests a year. They range from toilet paper to missile parts to typing paper. Every month some 35,000 pens and pencils and other marking devices are disbursed along with 8,000 rolls of toilet paper, some 25,000 paper clips, 2.6 million sheets of paper and 4.6 million computer key punch cards. This 500-man operation ships items in and out of KSC expediting launch critical items orders--that range from fuel lines to spare spacecraft parts.

9. The Bridge Tender

Bridge tenders, 11 of them, man NASA's vertical lift bascule drawbridges on the NASA Causeway into KSC from U. S. 1 over the Indian River, over the Banana River to the Cape and the Haulover Canal linking the headwaters of the Indian River to Mosquito Lagoon on the intracoastal waterway.

The idea is to make sure bridges aren't open when the big rush starts in the morning and afternoons by space workers on their way to and from work.

10. The Cleaning Man

The TWA/Aircraft Services Int'l cleaning team provides special support to the astronauts' quarters, the Pad, the Mobile Launcher, Mobile Service Structure and eigh t "clean rooms" where high degrees of cleanliness are required.

-more-

Ash trays are filled with an inch of water along the route the astronauts take inside the Operations and Checkout Building when their suits are pressurized with oxygen and they are on their way to a test or actual launch. Smoldering cigarets and pure oxygen together create a highly dangerous situation.

Special care is taken to remove lint and dust in areas where computers are used, especially in the firing room.

This is a 358-man task force charged with keeping clean 4.4 million square feet of working space, emptying 20,000 wastepaper baskets a day and carting off 70 tons of refuse.

In the Vehicle Assembly Building when the Lunar and Command Modules are stacked atop the Saturn V, work platforms are placed around the spacecraft at the Lunar and Command Module levels. These platforms are manned by TWA/ASI workmen 24 hours a day so long as the platforms are around the spacecraft. These men continuously vacuum, damp wipe and mop everything in sight except for the spacecraft and other contractors' special equipment. This includes the swing arms from the launch tower to the Command Module, and the Command Module clean room. Even the van that transports the astronauts to the Pad must be thoroughly cleaned before they may enter it.

11. Exotic Power

One of the most critical jobs at KSC involves electricity. TWA supplies the essential power to NASA's instrumentation and communications network. 10.

Seldom has no much exotic hardware been connected to an electrical distribution system. The Launch Umbilical Tower, Mobile Service Structure, liquid hydrogen and oxygen facilities and the Launch Control Center require a continuous supply of "reliable" electric power.

KSC has many unique and critical power requirements. All of them can't be satisfied by commercial sources, taken from Florida Power & Light Company by equipment capable of breaking down 55,000 KVA of commercial power to a secondary KSC distribution of 13,800 volts.

Power "parameters" for some items are unheard of in conventional electric systems. A parameter for instance, controls the flow of current to the ACE computers monitoring the Lunar Module. The frequency to these computers must hold within 0.15 cycles a second with less than one per cent voltage variation.

Commercial power fluctuates. You may have noticed at home how the lights dim sometimes and then brighten again. This fluctuation isn't tolerated by the computers. To help meet these demands, TWA operates a 2,400 KW generating plant. Altogether, there are 23 generators supplying precise, direct power in support of Flight Crew Training and Manned Spacecraft Operations.

It takes 160 portable and 24 permanently installed generators to support an Apollo launch. Many are used as backup power sources should the commercial fail.

This commercial and generator power must be distributed. More than 145 miles of underground and 67 miles of overhead lines are used.

-more-

These lines pass through 14 switching stations and 113 load break switches via 322 manholes and 1,925 poles. More than 224 unit substations are used, serving more than 3,220 load centers.

Users, or customers, are supplied with electrical power by connections to the 60,000 circuit breakers under TWA's control. Commercial power requirements at KSC result in an annual bill of about \$3 million.

12. Mosquitoes

The winds used to carry black hordes of mosquitoes into KSC out of the muck islands of Mosquito Lagoon north of Leunch Complex 39. Part of the job TWA does for NASA includes waging war on the breeding grounds.

This is done in two ways: flooding areas so fish can breed and feed off mosquito larvae, and by draining with man-made canals. Dikes are thrown up to create flooding.

A 40-ton dragline was driven north up the beach more than 33 months ago into the islands of the Lagoon. The big machine is working its way back towards KSC building muck highways over open water and the islands ahead of it as it goes.

The two men who work the machine get to the islands by boat each morning from the mainland, crossing the two-mile stretch of water that is a part of the intracoastal waterway. The fight against the mosquitoes involves a number of other employees, and has been successful considering how bad the mosquitoes used to be. 13. The High Crew

Mechanics who physically qualify, and who have no fear of heights are chosen for this work. They scramble around on steel beams sometimes 500 feet above the concrete floor of the VAB, or 400 feet up on the Mobile Launcher doing a number of jobs; swinging a work platform from the Tower to the Saturn V and stringing a safety net beneath it so other workmen can safely get to the missile, or walking a beam in the VAB with nothing but air beneath them.

They clean and inspect for items that could fall to the floor below. This involves use of safety belts, lanyards and training in rescue procedures to recover employees unable to get safely back.

These men wear hard hats with special emblems designating they are members of the High Crew. They wear them with pride, much like a Green Beret means something extraordinary to a soldier. Their training includes jumping off a 100 ft. tower and lowering to the ground by use of a rope.

14. Security

The darkness of night fails to blind the eyes of KSC security. Night Observation Devices are used in total dark to spot a man up to five miles away and show him so clear that his identity is recognizable.

-more-

This 400-man TWA/Wackenhut force mans the gates, patrols the 235 miles of roads, investigates complaints and protects the 88,000 acres that make up the Center.

Coded badges quickly show who has access to an area. No code, no access. Security involves clearing areas of personnel for tests, escorting the astronauts to the Pad, crowd control, traffic control, a communications network, information services by guardettes, issuing up to 12,000 badges a month including 650 orange-grove-only badges to pickers and 15 to beekeepers with hives on the reservation.

There is also an emergency plan signaled by the radio broadcast of "Sky Dive" (like May Day) that sends guards to the O&C Building in case of emergency during manned tests of spacecraft in the altitude chambers.

Patrolmen also issue traffic tickets (assessing points towards driving privileges) and maintain a file of 157,000 reports on traffic, hazards, security and accidents. They must shoot at least 210 of a possible 300 score with a .38 Smith & Wesson and take 56 hours of special training before they may become a member of the force. About ninety per cent of these men come to KSC with previous law enforcement experience, civil or military.

15. The Launch - Putting It All Together

One of the big items leading up to a launch is to ensure that supervisory and key personnel assignments have been made, that people 14.

in those positions are qualified, trained in their respective jobs, and thoroughly briefed on the operation.

The contractor must see that the right people are on duty to resolve problems that might arise which could affect the launch. All systems and equipment, such as fire alarm systems and power generators, must be checked out and certified in good working order.

TWA reports to NASA Installation Support that the preliminaries have been taken care of satisfactorily. Required spare parts must be on hand, firemen and rescue forces have to be ready, couriers from Mail and Distribution must be there to hand-carry messages between NASA and its contractors, and Medical and Security personnel must be in position.

At the Launch Complex, TWA is assigned 400 launch-oriented support tasks. As they are done, they are marked off. This progress is monitored and action is taken to resolve problems, all the time keeping liaison with NASA Launch Operations and their requirements.

For Apollo launches, there are modifications to Pad equipment that sometimes have to be made, 100 mobile trailers to be moved from the launch site (they're used as offices and shops), air conditioning systems to be double checked, and an elevator is locked out of public use in the Operations & Checkout Building. This makes the elevator available to the astronauts who operate it manually between floors.

At T-6 hours and 30 minutes, a TWA emergency response repair crew moves onto the Pad to do launch-mandatory repairs under surveillance of NASA systems safety. At this time, the cryogenic fuels are present.

Over at the VIP and Press sites, crewmen have prepared the sites to NASA specifications and helped provide facilities and services for newspapers, radio and television reporters. The Protocol layouts in Cocoa Beach, Melbourne, Titusville, Orlando and Daytona (for Apollo 11) were handled by TWA, too.

-more-

15.

Security forces under TWA/Wackenhut are dispersed well before liftoff, and the astronauts are escorted by Security from the Industrial area to the Pad.

At liftoff, the TWA/Wackenhut volunteer rescue team is near the Pad. The water flushed into the flame trench from the deluge system comes through the utility system TWA operates. Should a catastrophe occur, and the rescue team and the astronauts are unable to get out of the blast room, the dig out crew goes into action.

After liftoff, health engineers return to the Pad to check for toxic vapors as part of the damage inspection crew which includes TWA/Wackenhut firemen. When NASA decides to move the mobile launcher back to its park site at the VAB, a TWA crew prepares the Pad with plywood and flax for the crawler transporter. Back at the parking site, another crew starts sandblasting and painting the launcher getting it ready for the next launch.

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> Ton Winfield Manager-Community Relations Trans World Airlines, Inc. Washington Plazz-U. S. Hwy. 1 Titueville, Florida 32760

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P. O. BOX 21222 • KENNEDY SPACE CENTER, FLORIDA 32815 • TELEPHONE 305/269-3366 - 867-2050

NT-669

TOUR GUIDE FAMILIARIZATION PROGRAM

To help NASA Tours escorts to become more familiar with the space program a Training Program was instituted. The program was originally organized for training Tour Escorts for educational support.

Classroom meetings took place each Tuesday and Thursday and for the first few weeks involved scientific concepts including Newtonian Laws, orbital mechanics, and other basic understanding.

As the classes progressed, the Tuesday meeting took place in the classroom while the Thursday meeting was used for a field trip to a specific area of interest.

During this phase, the classroom subjects involved such subjects as propulsion, telemetry, tracking, human factors of space flight, manned and unmanned spacecraft, Apollo Saturn V hardware and concept, rocketry and guidance and various other aspects of space flight including current mission briefings.

The field trips were designed to familiarize the escort with all aspects of each specific area and to give each person a feeling of involvement. Commentary at each area was carried out by totally qualified personnel.

BUS TOURS CONDUCTED BY GREYHOUND

The following list is a summary of field trip visitations and the briefing personnel:

- Flight Crew Training Building Original briefing by Mr. Mitchell, Chief, CSMS #2. Each guide was given a personal tour and briefing inside the trainer. P. Baker (Chief Engineer), Ron Wheatenhagen, Dan Bland and Mike Hernandez provided commentary on these sessions.
- Central Instrumentation Facility (Briefer Walt Barney, Chief Automatic Data Processing Division. Understanding of C.I.F. functions during mission countdown and other tie-ins with Houston and Marshall.
- Crawler Transporter (Briefer was one of six drivers of vehicle -Ron Cotton). Guides received complete operational breakdown, including guided tour through vehicle.
- Vehicle Assembly Building (Briefer Mr. Baker). Two hour tour covering as much of facility as possible, including cranes, elevators, etc.
- Unmanned Launch Vehicles & Spacecraft (Briefer Don Sheppard, NASA Chief). Two part briefing traced unmanned programs and visits to Complex 17 and Complex 36.
- 6. Launch Control Center (NASA Test Supervisor conducted the briefing). Thisincluded VAB and LCC functions for receiving and assembly of Saturn V and Apollo spacecraft and a complete countdown sequence to launch.

-2-

7. Pad 39A (Apollo 11 Site) Briefer - Chuck Henschell - Test Conductor Briefing involved pad facilities such as fuel and oxidizer storage, nitrogen and helium supplies, escape routes and tour of lower levels.

-3-

At all areas tour guides posed questions to which they received answers from knowledgeable and genuine sources.

For further information contact George Meguiar, 867-2050 or 783-3094 (home).

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US TOURS CONDUCTED BY GREYHOUND



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NT-169

With June breaking all records for NASA Tours attendance, Mr. George Friedrich stated today that 210,000 are expected to take the tour of the Kennedy Space Center this month.

Mr. Friedrich, TWA Director of NASA Tours, stated a new record was reached in June with 133,007 taking the bus tour of the space center. So far this year, over a half million have taken the tour with that figure reached Thursday, June 26.

Early July will see NASA Tours reach the two millionth visitor. Plans are being made to celebrate reaching the two millionth mark with NASA Tours, operated by TWA, working with the Brevard Economic Development Council and the three area chambers of commerce. Gifts will be given by TWA and Greyhound, who conducts the tours.

County agencies will treat the visitor and his family to an elaborate stay in the county. If the visitor arrives before the launch of Apollo 11, accommodations have been secured for them to stay in the county to view the launch. If after the launch, BEDC will present an alternate plan.

Considering the anticipated crowds predicted for this month, Mr. Friedrich stated the additional 1000 parking places now under

BUS TOURS CONDUCTED BY GREYHOUND

construction should be ready for use prior to the launch of Apollo 11. "The expanded patio," stated Friedrich, "should be ready for use next week. Also ready for use, although not completed, will be the expanded loading area which will load and unload eight buses at a time."

Presently, NASA Tours are over 60 per cent ahead of last year and growing. Ninety-one per cent of those taking the tour are from outside the state of Florida, with better than 55 per cent coming due to advice from friends back home.

For further information call George Meguiar, 867-2050 or 783-3094 (home).

-2-





TELEPHONE 305/269-3366 — 867-2050

NT-269

EUROPEANS TO VIEW LAUNCH

385 from Europe will be brought to the United States to view the launch of Apollo 11. The tour was arranged by Taylor Travel Service of Paris as Tour Operator for TWA.

The countries represented will be France, Italy and Switzerland and is supported by major newspapers of the countries represented.

The group will arrive at New York by TWA July 14 and will continue to Miami. They then will board Greyhound buses for Orlando, Florida. On July 16 at 3 A.M. they will leave Orlando for their special viewing site in Titusville. The site is on the Indian River and has an excellent view of the launch.

On the morning of the 17th the Europeans will take the NASA Tour of the Kennedy Space Center, afterwards departing for Miami. The Tour buses carrying the Europeans will use foreign language tapes.

After several days in Miami they will proceed to New York City departing by TWA for Europe July 28th.

The visit of the Europeans in Brevard has been supported by the city of Titusville and the civic minded Titusville Jaycees. Working with Mr. Harry Chambers, TWA Manager for Visitor Support Services, NASA Tours, special

BUS TOURS CONDUCTED BY GREYHOUND

arrangements have been made to make their stay in Brevard as comfortable as possible.

The Jaycees taking the tour as a project will provide TV sets for on site viewing, provide a souvenir hard hat with a special Jaycee decal, provide free orange juice and water, set up four comfort stations, and provide bleachers. The Jaycees have written a resolution which has been signed by Titusville Mayor Clyde Pirtle proclaming July 16 International Visitors Day.

The resolution will be printed in three languages for distribution to the European Visitors.

The Jaycees will also have at the viewing area the day of the launch a registered nurse.

The tour of the Europeans is seen as a forerunner of future such tours by those in Europe to see for themselves the facilities of the American Spaceport.

For further information call George Meguiar, 867-2050 or 783-3094 (home).

The visit of the Europeans in Brevard has been supported by the city of Titusville and the civic minded Titusville Jaycees. Working with Mr. Harry Chambers, TWA Manager for Visitor Support Services, NASA Tours, special

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NT-369

mind. Thank you."

COMMENT CARDS

When a person takes the tour he is given the following card for his comments. Most cards are mailed from home upon their return and less than one per cent are critical of the Space Program.

PARTY	CITY	STATE	
THROUGH WHAT MEDIUM YOU HEAR OF NASA TOU		RADIO TELEVISION	FRIENDS OTHER
COMMENTS:	o be able to see	where history	is made. I
	Testere		
rsed and courteous	1. ¹⁰		

Here are some of the typical comments received by NASA Tour Visitors:

Party of two from Indonesia

"We enjoyed Chuck's direction very much. The entire experience makes us grateful for those who make this program possible, and very proud of America."

Party of two from Chicago, Illinois

"The tour was marvelous. It removes all doubt anyone might have about the necessity for a complete American Space Program."

BUS TOURS CONDUCTED BY GREYHOUND

Party of three from Muncie, Indiana

"I was always thinking that I pay too much taxes, but I have decided to change my mind. Thank you."

Party of four from Anderson, Indiana

"It was a thrilling visit and very warm feeling going back to Indiana knowing our government at work, and a thrill for our 10 and 12 year old children to take back to school. This was once in a life time experience."

Party of two from Cleveland, Ohio

"I found the tour very interesting, even though it poured down rain. I would recommend the tour highly. Actually seeing brings better understanding of the Space Program. I would take a second tour."

Party of two from Hartford, South Dakota

"We felt this was the most interesting and educational place we visited. It was a real privilege to be able to see where history is made. It was beyond compare. Thank you."

Party of two from Hammona, Indiana

"The tour was fabulous and fantastic. Our tour guide on bus #21 was very well versed and courteous."

Party of two from Rockledge, Florida

"While we live in the Cape's backyard, it was still a thrill to see the complex on your tour."

Party of four from Zelianople, Pennsylvania

"The tour was very interesting and educational. Our driver, B. Johann was polite and courteous."

Party of three from Clearwater, Florida

"The tour was very interesting and educational. We also would like to comment on the wonderful way our driver, Mr. Lovett, explained things to us."

"Friends from New York City, knowing we were going to Florida, wrote us to say your Space Center Tour was the most exciting experience in the U.S today. That was the understatement of the year."

Party of five

"The tour was very good with a great guide, High Connor."

Party from Johannesburg, South Africa

"The tour is tremendous. I wish I could stay to see the next launching. You will do it! Lots of luck and God's speed."

Party of three from Reseda, California

"Congratulations for the most exciting tour of its kind. The driver was well informed and pleasant to listen to."

Party of four from Otterburn Hights, Canada

"The tour is a credit to NASA and the United States of America."

Party of five from Shoreham, New York

"It was an interesting tour, but we would have liked to have seen more of the insides of the buildings and launch sites. Mr. Cole was a good guide."

Party of two from Brisbane, Australia

"We appreciate the opportunity to be able to observe and learn to understand more about man's progress into space. Congratulations to the U.S.A. on its magnificent effort and assurance of continued efforts in their fields."

Party of three from Houston, Texas

"Our driver and guide on bus #493 was extremely good. If anything he over educated us. The tour and look into the VAB was well worth it. The museum was good, too, but the bus tour was the best."

Party of five from Columbus, Ohio

"This was, in my opinion, the most worthwhile tour we have ever made. It was very educational. I think just to take the tour would be worthwhile to drive the 1,000 miles."

Party of two from Toronto, Canada

"Friends from New York City, knowing we were going to Florida, wrote us to say your Space Center Tour was the most exciting experience in the U.S. today. That was the understatement of the year."

Party of Five

"We enjoyed the tour. We are pleased and proud of what they are doing at Cape Kennedy. We had no idea of how huge the Center was. Thank you for the tour."

Party of four from Baltimore, Maryland

"The tour was enlightening. TV and radio coverage will be easy to follow after viewing your equipment and hearing all the information."

Party of two from San Diego, California

"It was a very worthwhile morning. We particularly enjoyed the lecture in the theatre #2 on side advantages of space research and the explanation of problems solved so Apollo 11 can carry out the landing."

Party of three from Birmingham, Alabama

"We thoroughly enjoyed the tour. Our driver, Al, was a very careful and good driver. Also we enjoyed his informative as well as sometimes humorous comments. We feel if you made this same tour in your own auto, it wouldn't be as interesting as the bus tour because of the background information given at each stop along the way. It is a story unfolded as you travel along and a very very interesting one, too."

Party of two from Downing, Wisconsin

"It was a most interesting tour and the highlight of our 9,000 mile trip. Now I understand better where so much of our tax money is going."

Party of four from Waterloo, Wisconsin

"We thoroughly enjoyed our bus tour through NASA. We found it very educational. We were sorry our children weren't with us on our vacation and missed the tour."

Party of four from Jackson, Mississippi

"This tour was one of the highlights of our vacation. We enjoyed it very much. The rest rooms and snack bar was exceptionally clean. It made us proud to be American and to see NASA."

Party of two from California

"We were glad to see where our tax money is going. It was very interesting. Bob Johann was very good."



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TOUR PLANNING BEGAN

YEARS AGO

KENNEDY SPACE CENTER, Fla.--Story behind the story on the Kennedy Space Center escorted bus tours--which began July 22, 1966,--is nearly as interesting as the Spaceport attractions themselves.

As early as 1963, Center Director Dr. Kurt H. Debus foresaw the potential benefits of allowing visitors to view this nation's only operational Spaceport, then in its early construction stage.

He had reviewed traffic studies which showed 10 million vehicles a year traveling across Florida highways adjacent to the Center, and he felt by giving the public an opportunity to see the launch sites and facilities, they would have a better understanding of the country's space programs.

Congressmen, among them House Space Committee members Olin Teague (D-Tex), Walter Rhielmann (R-NY) and Edward Gurney (R-Fla) shared Dr. Debus' beliefs.

BUS TOURS CONDUCTED BY GREYHOUND

Late in 1963, Teague wrote to NASA Administrator James E. Webb expressing the awareness of the public interest in the Spaceport, and asking what plans were being made to accommodate visitors.

At KSC, special group tours had already been inaugurated, and plans for escorted public bus tours had been started.

In 1965, meetings were held between NASA representatives and members of the National Park Service, a federal agency long experienced in the operation of tours and in dealing with public tours.

The National Park Service, after an extensive study at KSC, made a 100-page report that became the basis of Center tour planning.

They recommended escorted tours of the Spaceport and the construction of a Visitor Information Center. Park statisticians forecast one million visitors the first year the VIC would be open, and up to three million visitors annually by 1970.

Actual figures saw two years pass before the one millionth visitor was honored July 1, 1968. The two millionth visitor is expected the middle of July this year.

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Meanwhile, KSC gained valuable experience on the public's interest in space through the drive through tours that were begun in 1965--on weekends and holidays.

When more than 33,000 people drove through the Center over Christmas 1965 holiday weekend, it was decided to begin the escorted bus tours as soon as possible to relieve the weekend pressure.

In April 1966, Deputy KSC Director Albert F. Siepert briefed Deputy NASA Administrator Dr. Robert C. Seamans on the situation, and asked for authorization to use the KSC contract with Trans World Airlines, which has a provision for operation of the bus tours.

Fifteen reconditioned Greyhound buses were leased, and an interim exhibit facility was built at Gate 3. More than 1500 visitors took the tour on the first day of operation, July 22, 1966.

Attendance topped 50,000 in August and it quickly became obvious more buses would be needed to handle the crowds which exceeded all initial expectations.

On Octoberl KSC began its student space science lecture demonstrations and tour series--again to enthusiastic response from Florida school children.

- 3 -

Many improvements and refinements were made during the first year of operation.

Initially, two tours were offered -- one of the Spaceport only, and a longer one, covering KSC and Cape Kennedy. Acceding to the public's wishes, the shorter tour was dropped.

A glass booth was added in the Vehicle Assembly Building and later, a second one was built. A new stop was installed at the Mission Control Center on the Cape, and it has proven one of the tour's highlights.

A photo platform was placed near the fence of Launch Complex 39's Pad A, so camera buffs could photograph Saturn V vehicles when they were on the pad.

To service crowds of 4,000 to 7,700 a day, more buses have been added, and newer ones have replaced older vehicles. TWA has hired a number of area school teachers to act as tour guides through the peak summer months. and on weekends throughout the year.

The Visitor Information Center was officially opened August 1, 1967 at formal ceremonies hosted by Kennedy Space Center Director Dr. Kurt Debus. The 500,000 visitor took the tour August 1, 1967. The following day an open house was held for Brevard County and area leaders including local

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mayors, county commissioners and chamber of commerce leaders.

- 5 -

NASA responsibilities for the tours are handled by Installation Support (bus schedules, facilities, logistics and overall operations) and Public Affairs (program content, exhibits, tour commentary, public reaction, etc.).

TWA director of NASA Tours is George N. Friedrich. TWA operates the operations with Greyhound conducting the bus tours.

As early as 1963, Center Director Dr. Kurt H. Debus foresaw the potential benefits of allowing visitors to view this nation's only operational Spaceport, then in its early construction stage.

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NASA TOUR FACTS

Erected and added in April, 1969 were three historic rockets, an actual F-1 booster engine from the first stage of the Saturn Five. The three rockets added included the Juipter C devised by the U.S. Army's ballistic missile development organization in 1956. On January 31, 1958 it launched the first U.S. earth satellite, Explorer I. Also on display is the Gemimi Titan, the launch vehicle used to propel 20 astronauts into earth orbital missions in 1965 and 1966. The third vehicle is the Juno II which was used to launch Explorer 7 satellite into orbit and Pioneer III and IV lunar probes. All four displays are in front of the VIC facing the north.

* * * * * * * *

Currently 91% of the visitors are from outside the state of Florida, with 10% of that total from other countries.

The prime motivation for coming to NASA Tours by visitors is recommendation of friends at home, over 55% stated that was their reason for visiting the Kennedy Space Center, NASA.

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NASA Tours is currently running 3.34 persons per car entering the center. Of the cars entering the Center 89.8% take the bus tour of the Kennedy Space Center, NASA.

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All displays, movies and lectures at the Visitor Information Center are available without charge.

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On display at the VIC is a 1/10th model of the Saturn Five. One side is cut-away and shows how the Lunar Module is stored during liftoff. ******

Jorue acars of wood

This year as of the first of July is 74% over last year in attendance.

******** The largest attendance for a month was June this year when 133,007 visited NASA Tours.

* * * * * * * *

The largest attendance for a given day, up to July 9, 1969, was July 8, 1969 when 8,030 took the bus tour.

* * * * * * * *

NASA Tours is open every day except Christmas Day or when operational schedules make closing of the Kennedy Space Center to the public necessary.

-2-

Drive through tours by the public in their cars is still permitted through the Kennedy Space Center, NASA and Cape Kennedy Air Force Station on Sunday. Currently 200,000 a year still tour the Spaceport by car.

-3-

The first of July 1969 saw the first 12 month period with one million visitors. Predictions are that 1969 will see better than one million take the guided bus tour.

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******* Currently TWA, operator of NASA Tours and Greyhound, sub-contractor for the bus tours have a joint staff of 200.

Fifteen reconditioned Greyhound buses were leased, and an interim exhibit facility was built at Gate 3. More than 1,500 visitors took the tour on the first day of operation, July 22, 1966.

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July 11, 1969.

KENNEDY SPACE CENTER, FLORIDA – As the moon prepares to receive its first visitor next week, Kennedy Space Center races for the arrival of its two millionth visitor here.

Two hundred fifty thousand miles away two American astronauts will step gingerly onto the hostile, silent surface of the moon, but at Kennedy Space Center the two millionth visitor will be warmly welcomed and feted by the Center's tour operator and conductor, Trans World Airlines and Greyhound.

Appropriately, the final countdown to the moon and the arrival of the two millionth visitor at the Spaceport will occur at the same time. Tourist arrival at the Kennedy Space Center will average more than three thousand visitors per day during the past year. This figure has climbed in recent weeks to nearly five thousand per day, at times exceeding seven thousand visitors.

Guided bus tours began at KSC in July of 1966 under the auspices of the National Aeronautics and Space Administration (NASA) to provide the visitor with a first-hand view of the space complex. NASA Tours (a Government agency) is operated under the supervision of Trans World Airlines and is conducted by Greyhound Lines.

Greyhound, nationwide intercity bus operator, provides the equipment and trained manpower required to accomodate the daily thousands of American and foreign visitors through its subsidiary company, Florida Parlor Car Tours, Inc.

Normally an average of 22 buses per day at KSC, the company's fleet has risen to more than 50 buses to meet the requirements of this summer's visitors.

Highly trained driver-escorts (minimum of two years college required) lecture knowledgably to nearly 200 visitors per day per driver in the course of the two and one-half hour bus tour. The bus tours start at the Visitor Information Center, six miles east of U.S. #1 on Merritt Island, 200 miles north of Miami. Wide-eyed space enthusiasts of all ages stare in disbelief at the vastness of the Vehicle Assembly Building, the awesome height of Saturn V and the unfathomable intricacies of space control centers.

Tours at Kennedy Space Center operate daily including Sunday from 8 a.m. until sunset, except on Christmas Day, but V Day (Visitors' Day) at the Spaceport next week will hold special significance for at least one visitor and his family — — when NASA, TWA and Greyhound roll out the red carpet to welcome the two millionth visitor to Kennedy Space Center.

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We at NASA Tours welcome you to the Kennedy Space Center and NASA Tours. The enclosed releases cover our operation but in the event you have further requirements we will be only too happy to supply further information or take orders for photographic coverage.

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George Meguiar, Menager Public Awareness TWA-NASA Tours Kennedy Space Center

