

STUDENT HANDOUT
RETAIN FOR REFERENCE
TRAINING MATERIAL
CURRENT - JULY 15, 1987

I. INTRODUCTION:

A. PERFORMANCE

Speed (Maximum)	84 mph + (<u>restricted to 55 mph maximum</u>).
Acceleration 0-60 mph	Less than 12 seconds
Horsepower	94 hp @ 4400 rpm (nominal)
Compression Ratio	8:1
Fuel Consumption	30 mpg (average)
Fuel Capacity	16 gallons
Turning Radius	22 feet (minimum) without cutting brakes.

B. PHYSICAL CHARACTERISTICS

Length	146 inches (approximate)
Width (Outside Wheel to Wheel)	76 inches (approximate)
Height	57 inches (approximate)
Ground Clearance	13.2 inches (minimum)
Weight	1740 pounds
Wheel Base	103 inches
Gross Weight	2440 pounds

C. ENGINE DATA

Type Engine	Modified VW 1984 cc, 4 cylinder
Fuel System	Gasoline, standard carburetion
Type Fuel	Unleaded (87 octane) commercial or military grade
Type Cooling	Air cooled
Transmission	Synchromesh Transaxle

D. ELECTRICAL SYSTEM

System Voltage	12 volts
Alternator Output	14 volts, 55 amperes
Battery Capacity	100 ampere-hours Dry type

E. CHASSIS CHARACTERISTICS

Frame Type	Welded, tubular, 4130 Chromoly
Suspension (Front)	Standard fixed with VW type torsion bar, king pin, adjustable joint and single gas-filled shock absorber

F. Suspension (Rear)

Modified with 2 gas-filled
shock absorbers

Steering

Rack and pinion

Brakes (Rear)

Hydraulic drum type

Brakes (Front)

Hydraulic drum type

Wheels (Front)

Five-lug 15 x 5

Wheels (Rear)

Five-lug 15 x 8 offset

Tires (Front)

Four-ply E78-15, National
Commando (tube type)

Tires (Rear)

Four-ply 31 x 11.50 R15
Goodyear Wrangler (tube type)

Tire Pressure

Front

18 psi

Rear

20 psi

G. Shift pattern is VW standard 4 speed

R - OVER (L) DOWN AND BACK

	1	3
	<hr/>	
R	2	4

II. VEHICLE INVENTORY

A. Can #1 - Drivers side rear of seat - sealed.

Smoke: 2 white 1 red

Fuzees: 4 Red Hand Held

Tool Kit: 1 - 6mm allen wrench
1 - 3/8" allen wrench
1 - Small common screwdriver
1 - Diagonal cutters
1 - Pliers slip joint
1 - 6" crescent wrench
1 - 8" crescent wrench
1 - 6" common screwdriver
1 - Snake-bite cold packs

B. Can #2 - Passenger side front of pod.

Jack

Lug wrench

First Aid kit

C. Attached to Frame Rails:

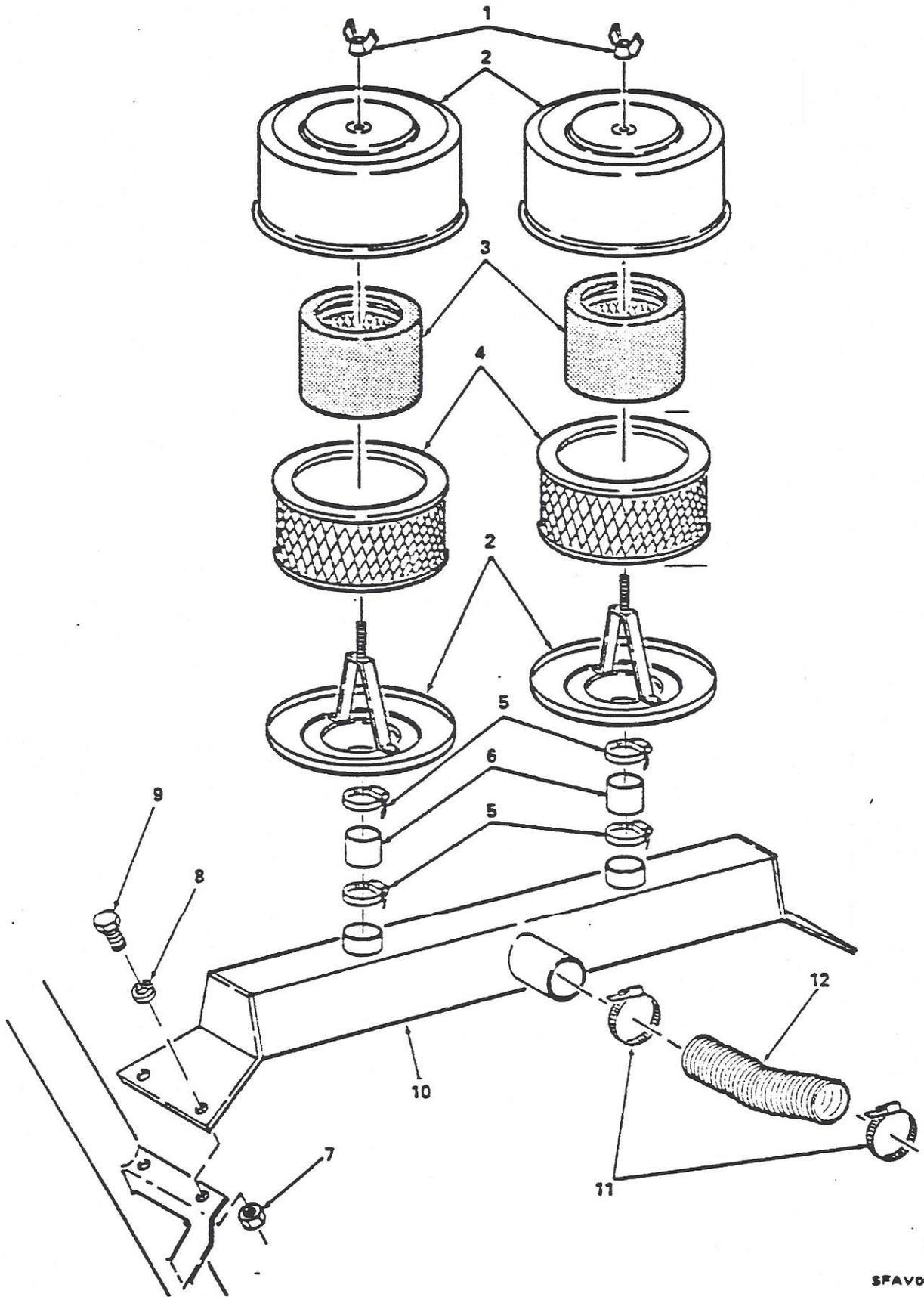
Tow rope or strap

Several feet of duct tape

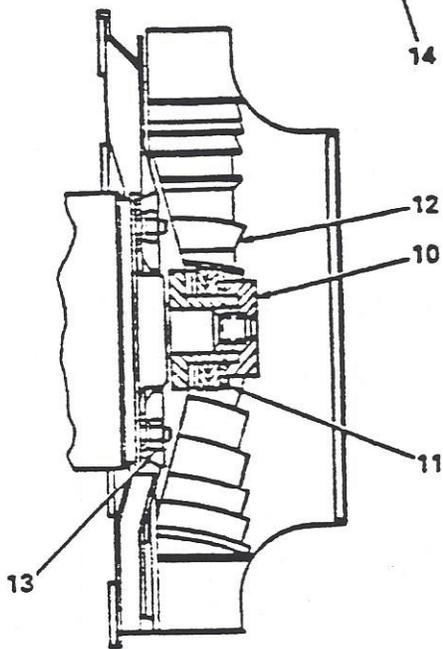
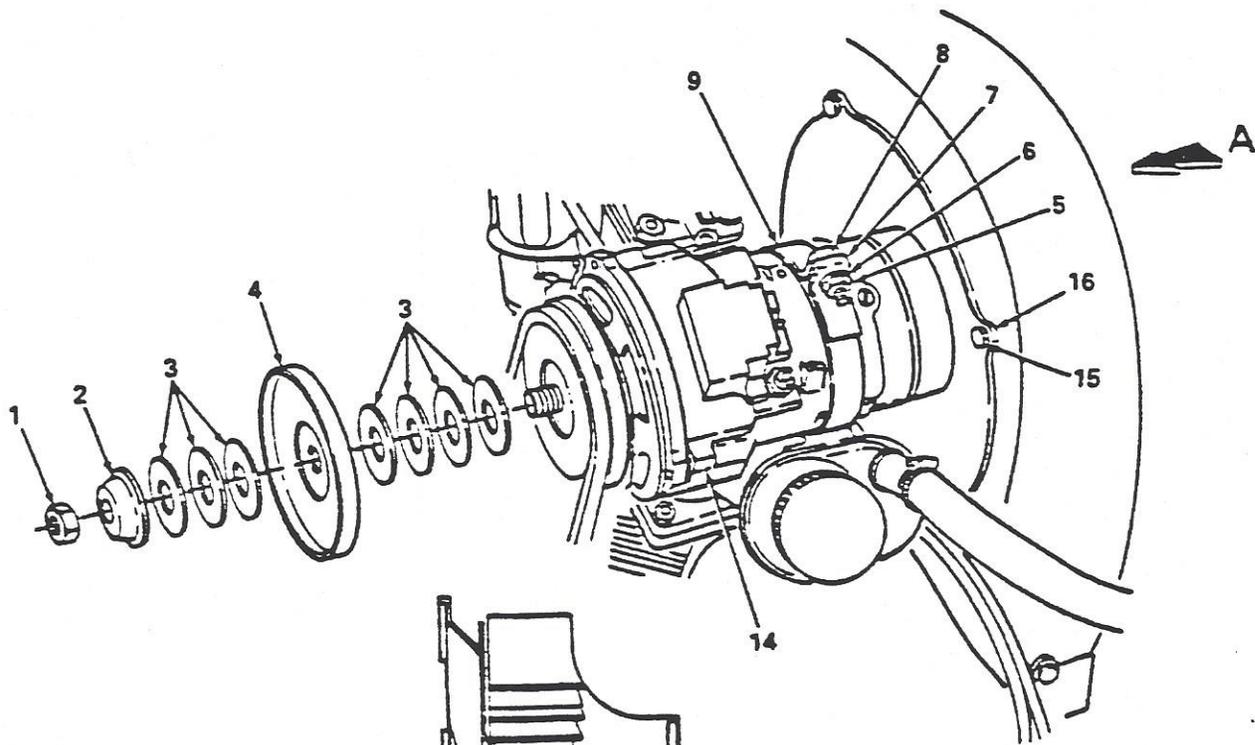
Several feet of tie wire

Extra fan belt

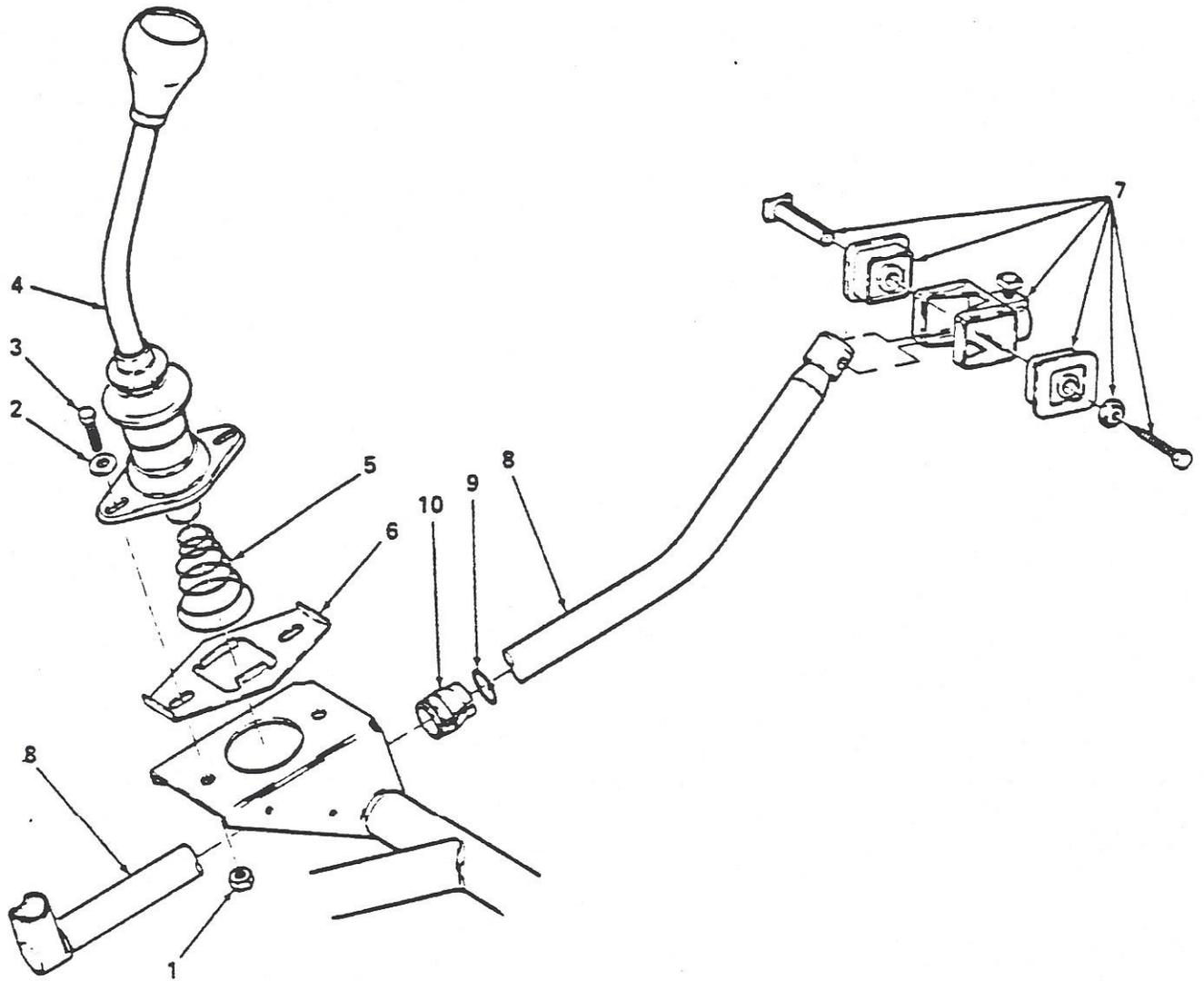
Two (2) canteens



SFAV06P



DETAIL A



SFAV 14P

Figure 2-18. Transmission Linkage

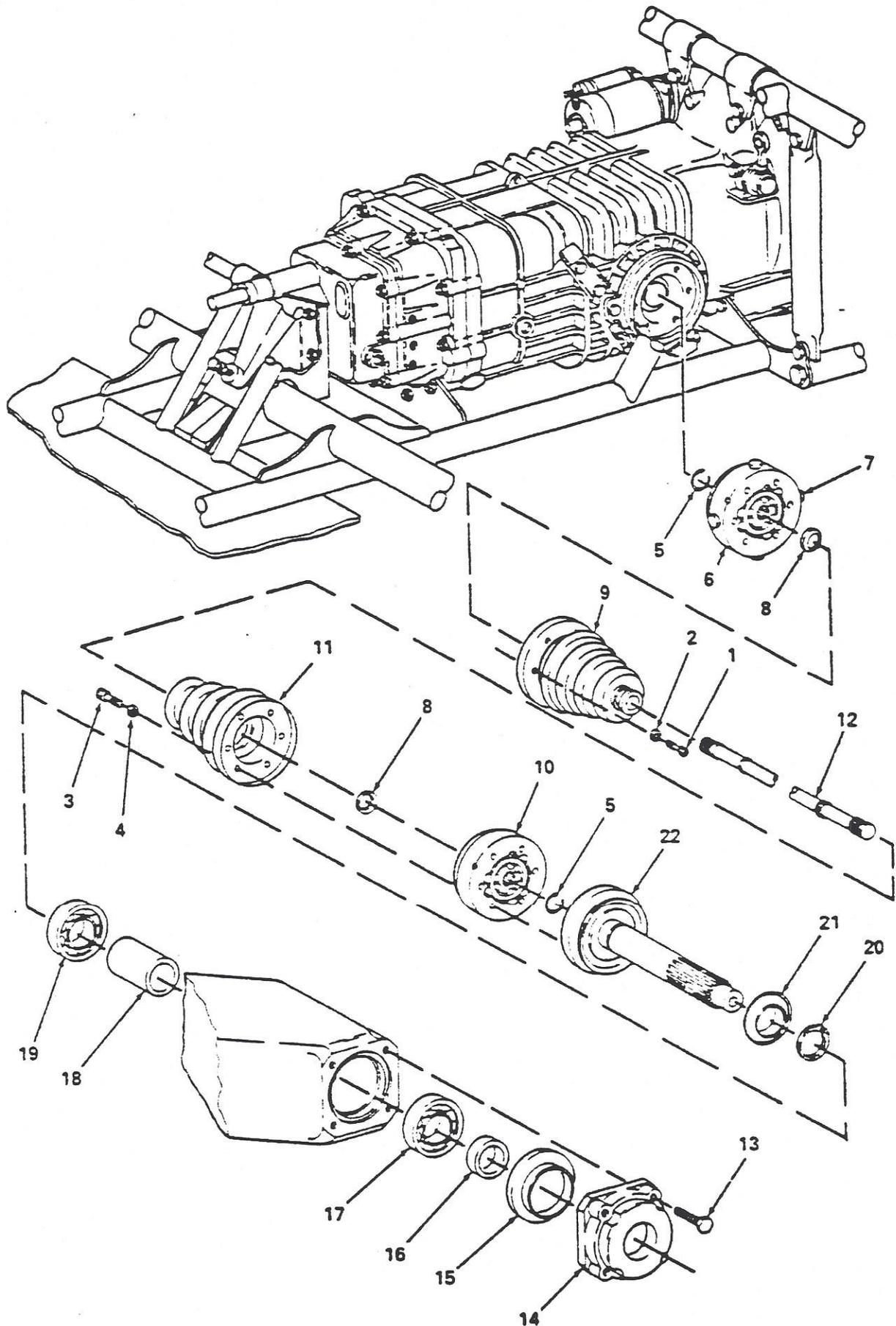


Figure 2-19. Final Drive Assembly

I. DRIVING COURSE

A. Classroom.

1. Two (2) hours of classroom discussion and video. Hands on inspection of the vehicle per the checklist.

B. Supervised driving.

1. 1st lap around course for each student will be with an instructor driving, explaining the course and operation of the car in different attitudes and terrain. Instructor will cover all line items on instructors check list.
2. 2nd lap will have the student driving with the instructor riding as passenger and advisor.
3. 3rd and subsequent lap will be with two students in the cars with an instructor driving the lead car. There will be no passing on the course. An instructor, when available, will be in a trailing vehicle.
4. After each lap an instructor will meet with the crew allowing them to critique each other. Constructive criticism will be accepted - sarcasm will not. Help each other. Instructor keep control.
5. Panic stops, skid recovery, high speed operation, vehicle recovery, evasive tactics, cutting brake operations, side hill, backing techniques will be taught in the classroom and reinforced on the course.
6. For safety reasons if the car in front of you stops for any reason you must stop and stay with that car until it gets moving again. Assist as needed.
7. Page 11 and 12 depicts a 6 person, 5 vehicle class with instructors. This system will be adhered to except for deviations authorized by the T/S Captain.
8. For night driving each trainee will complete two laps of the course. Lap one will be with headlights and lap two will be with night vision goggles using black-out lights 1/2 of the lap and no lights the other half.

SAFETY ANALYSIS REPORT
FAST ATTACK VEHICLE (FAV)

May 15, 1987

TABLE OF CONTENTS

INTRODUCTION	Page 3
MAXIMUM FORESEEABLE LOSS	Page 4
MAXIMUM PROBABLE LOSS	Page 5
RISK IDENTIFICATION AND CONTROL	Page 6
APPLICABLE REFERENCES	Page 13
APPENDIX A FAV DESCRIPTION	
APPENDIX B WSI SOP: FAST ATTACK VEHICLE (FAV)	

INTRODUCTION

The general purpose of operating the Fast Attack Vehicle (FAV) at the NTS is for the utilization of its unique capability to support the security mission. The FAV is an unlicensed, highly mobile, transportable, lightweight, attack vehicle intended normally for use where speed, agility,

reviewed as required. This review is not intended to include specific hazards associated with either resulting actions that might occur in the application of deadly force.

MAXIMUM FORESEEABLE LOSS

The maximum foreseeable loss associated with this operation would be the occurrence of a crash in extremely rough terrain wherein a FAV is driven off the unseen edge of an unusually high precipice during an intruder pursuit operation and impacts into a rock formation resulting in severe damage to this vehicle and either death or critical injury to the two-man crew as a result of that impact or possible ensuing fire.

While it is not believed at this time that this probability is completely eliminated, a number of specific controls have been established to mitigate this possibility. These include:

1. FAV driver training lectures and hands-on training both on the driving course and in the field, stress that being in control at all times and safely negotiating terrain features are the determining factors for safe operation--not speed.
2. Design of FAV incorporates a protective roll-cage with additional safety equipment available to enable the helmeted driver and co-driver to be secured to body conforming bucket seats by individual five-point restraint systems. Effect of protective gear and systems serve to minimize effects of out-of-control contact with dangerous terrain features.
3. Power application techniques, taught by the FAV Driver School, require that it be applied by using a technique called "feathering the throttle." The mandatory use of this technique is intended to prevent the driver's application of continuous full power and serves to enhance speed control, terrain reading and obstruction avoidance capabilities.
4. FAV Driver School course curriculum incorporates and stresses the key safety areas of terrain reading and obstruction avoidance. These skills are directly interrelated with the successful maintenance of control of the FAV throughout the driving experience. Speed for its own sake is not tolerated and the violation of this precept will result in expulsion from either the training program or denial of mission/special operations use.

MAXIMUM PROBABLE LOSS

The maximum probable loss associated with this operation is the loss of a FAV and its two-man crew due to an uncontrolled high velocity crash resulting from improperly negotiating off-road terrain features. While the possibility of this occurrence cannot be totally eliminated, certain positive actions have been taken to minimize the probability. These actions include the stressing of maintaining control during FAV operation and the safe negotiation of terrain features by properly reading said terrain. This document and its appendices address these and other issues pertinent to mitigating any losses of equipment or personnel.

RISK IDENTIFICATION AND CONTROL
FAST ATTACK VEHICLE (FAV) MAINTENANCE

Associated Risks: The following risks have been identified with regard to maintaining the FAV.

- * Inadequate scheduling of inspections and maintenance.
- * Assignment of mechanics with inadequate experience and skill levels resulting in improper maintenance and repair.
- * Operation of FAV in unserviceable condition.

Controls: The following controls have been implemented to reduce the probability of accidents due to the preceding listed risks.

- * Prior to being released for operational duty with the WSI NTS Security Force, FAV's received from Fort Lewis, Washington undergo a comprehensive acceptance check by REECO. The following is an abbreviated checklist depicting the extent of the acceptance inspection and repair:
 1. Disassemble front end. Inspect, repair, clean, lube and reassemble, includes brakes.
 2. Disassemble rear end. Inspect, repair, clean, lube and reassemble, includes brakes.
 3. Disassemble steering system. Inspect, repair, clean, lube, reassemble and adjust.
 4. Disassemble shifter. Inspect, repair, clean, lube, reassemble and adjust.
 5. Remove designated lights. Install replacement tail/stop lights. Check all lights operational.
 6. Change oil, check transmission fluid level, brake fluid level and clutch fluid level.
 7. Replace or clean all filters.
 8. Adjust valves and retorque heads.

9. Disassemble carburetor, clean, reassemble and adjust.
10. Tune engine.
11. Adjust suspension.
12. Test drive vehicle.
13. Weld security chain to frame.
14. Repair or replace all fiberglass items.
15. Tighten seat lacing (replace lacing as needed).
16. Paint vehicle desert camouflage in our fleet colors.
17. Final test drive.
18. Clean up test drive gigs.

- * Each FAV is scheduled for Periodic Maintenance (PM) by the Reynolds Electrical & Engineering Co., Inc. (REECO) Fleet Operations Department on a recurring annual basis or 4,000 miles, whichever comes first. The REECO personnel performing such maintenance will be those who received special training by the FAV's factory mechanics or those subsequently trained by REECO personnel who were initially trained by the factory. All retraining or initial training will include factory revisions and/or updates to maintenance/inspection manuals. Deviation from this requirement will only be for minor maintenance in the event factory-trained mechanics are not available (Appendix A). Oil change schedule is 25 hours/500 miles or six months.
- * Minor maintenance to include pre- and post-operational inspections are performed by the FAV operator. This maintenance and inspection technique is taught to drivers as part of their requirements for certification.
- * The procedures for conducting the pre- and post-operational inspections are outlined on the WSI Activity Report Supplement/ Checklist (Appendix A of SOP: FAV). The checklist contains eight asterisked items that must be corrected before a FAV is accepted by the driver as operational.

DRIVER TRAINING/ASSIGNMENT

Associated Risks: The following risks have been identified with regard to those individuals designated as FAV drivers/passengers.

- * Inadequate experience and skill level.
- * Proficiency levels inadequately maintained.
- * Demonstrated poor judgement (speeding, reckless operation).

Controls: The following controls are used to minimize problems associated with the preceding listed risks.

- * Selection criteria for assignment to FAV driver training will be based upon, but not limited to those specified in the WSI SOP: FAV. Preference will be given to those volunteers possessing a mature attitude and stable demeanor.
- * Periodic informal supervised proficiency rides will be conducted by WSI Training Section Instructor Lieutenants. Scheduling will be based upon noted marginal performance or the need for recurrency training as determined by the Training Section.
- * Initial training of FAV drivers is intense and comprehensive. An excellent balance of classroom instruction versus hands-on field training has been established. The FAV instructor cadre has been trained by the factory representatives (Chenoweth Racing Products, Inc.), who have an established record of success and credibility in both the national competition arena and with the U.S. Army's Light Attack Battalion which utilized the FAV in the combat role. The overall quality of this course lends itself to producing certified FAV drivers with an outstanding foundation of experience and skill that can only improve over time as a result of operational use.
- * The underlying success of the safe operation of the FAV in rough terrain is control. Speed or other forms of reckless operation are not tolerated. If such negative performance is noted, the subject driver involved will be counselled, given a check ride and a determination made whether his or her driving privileges will be retained. The subject of control is well integrated in the driver training course curriculum and is stressed repeatedly. During hands-on field evaluation, control must be demonstrated as being well-instilled in the student driver's technique of operation.

- * Initial training will include "terrain reading" so that drivers will recognize terrain conditions which are dangerous for the FAV operations, such as: vertical slopes that are too steep; side hill slopes that are too sloping; gully widths that might cause an accident, etc.
- * Night driving training will include the use of night vision equipment and practice hands-on driving with an instructor as co-driver providing supervision. Special low-intensity blackout lights will provide illumination. Night driving techniques using standard vehicle lighting will also be part of the FAV training curriculum and will also include the use of practical hand-on training techniques.
- * Passengers will also be given safety training. No riding except in the passenger seat will be permitted. Passengers who are not authorized drivers shall be subject to approval by field duty officers. A safety briefing will be included.

PROTECTIVE EQUIPMENT

Associated Risks: The risks associated with the FAV driver's personal gear are primarily injury or death due to the lack of or inadequacy of personal protective/emergency equipment and/or clothing.

Controls: The following controls are implemented to reduce hazards of the preceding stated risks.

- * Protective equipment will be furnished as required. Each FAV driver and co-driver will wear a helmet, gloves, eye protection, safety shoes/boots and long-sleeved outer garment. These items will be worn during all FAV operations to minimize injury or death that might occur as a result of an incident or accident. This requirement is outlined in WSI SOP-FAV.
- * A fire extinguisher is provided for emergency use. No fire danger exists from vehicle exhaust system. The engine is rear-mounted with exhaust stack set in the vertical plane. There is no under-vehicle exhaust system or other heat-producing devices.

COMMUNICATIONS

Associated Risks: The primary risks associated with loss of communications are:

- * Endangering FAV operating personnel during emergency or routine operations.
- * Loss of command and control.

Controls: The following controls have been implemented to reduce the preceding stated associated risks.

- * Radio communications during FAV operations have been determined by operational testing to be satisfactory during cross-country travel.
- * The FAV vehicle will be equipped with an operable radio at all times (ground-to-ground, air-to-ground, or both as required). To assure both mission and/or emergency communications are functioning, all radio equipment will be operationally checked prior to remote mission/special operation departure. If radio silence is in effect this requirement is waived.
- * Due to the FAV's remote operating locations, radio communications are key to maintaining command and control of the units in the field. This is essential to mission coordination or an emergency situation that might develop. To reduce the risk of communications loss, the majority of FAV operations will be conducted in pairs. This not only provides alternate radio communications but a capability to render supportive aid, in case of FAV breakdown, or accident.
- * As a means of effecting emergency visual signal communications each FAV is equipped with one (1) red and two (2) white smoke grenades. The red smoke grenade is to be employed to facilitate rescue when a genuine emergency situation has occurred and assistance cannot be obtained via radio. The white smoke grenades are to be used to vector rescuers to the disabled and/or injured individual or to assist if necessary in locating the FAV during special operations or joint FAV-ART operations.

WEAPONS AND MUNITIONS

Associated Risks: The following risks have been identified with the carrying and storage of weapons, ammunitions, smoke grenades and grenade simulators aboard the FAV.

- * Unintentional discharge of a firearm, smoke grenade or grenade simulator.
- * Equipment, weapons, ammunition, smoke grenades and grenade simulators becoming unsecured during operation of FAV, especially in rough terrain.
- * Accidents while off-loading weapons, ammunition, grenades, etc., from FAV cargo pods.

Controls: The following controls have been implemented to counter the possibility of the preceding listed risks from occurring.

- * The possibility of an unintentional discharge of a weapon or munition has been minimized by procedures outlined in WSI SGO 11, and DOE Explosive Safety Manual, DOE/EV/06194-3.
- * To preclude the possibility of equipment, weapons, ammunition, smoke grenades and/or grenade simulators from becoming unsecured during FAV operations, these items will be stowed and secured in the left and right FAV cargo pods in protective cases and/or containers which have been specifically designed and attached in a manner to assure their immobilization.
- * All FAV operating personnel will be thoroughly briefed on the safe procedure for unloading equipment such as weapons, ammunition and other mission essential munitions from the FAV cargo pods.
- * Equipment storage containers are permanently affixed to both the left and right pods. Those containers whose contents have the tools and pyrotechnics will be locked when the vehicle is left unattended. These locks will be removed during vehicle operation and replaced when vehicle is not in use. Ammunition will not be stored in the vehicle's containers at any time unless it is manned and/or in operation.

RESPONSE TO THREATS OF SNM SECURITY

Associated Risks: The following risks have been identified with the use of the FAV in joint ART-FAV operations or in the role of ART back-up.

- * The vehicle being fired upon by hostile ground forces.
- * The arrival approach and deployment of WSI force during response to an area under attack or under control of hostile forces.

Controls: The following controls have been implemented to counter the possibility of the preceding risks from having a serious affect on the WSI force.

- * While it is recognized that it is probably not possible to prevent a dedicated hostile force from firing on the FAV's, it will be incumbent upon the WSI crews to plan their respective tactical positioning by taking advantage of terrain screening or other such terrain advantages, the speed, agility and low silhouette of the FAV and the possible recon information from the ART helicopter with regard to hostile force positions. These combat approach techniques and others will be practiced so as to afford the safest means of entering a small tactical team independently by FAV's or in joint operation with the ART helicopter.
- * Except as a deterrent to being fired upon by hostile ground forces, firing from a moving FAV is prohibited.

APPLICABLE REFERENCES

DOE Order 5480

DOE Order 5480.1 (Chapters)

DOE Order 5480.1B

DOE Order 5481.1B

DOE Explosive Safety Manual DOE/EV/06199-3

WSI Fast Attack Vehicle (FAV)
Driving & Maintenance Instruction

WSI Standard Operating Procedure/Fast Attack Vehicle (FAV)

WSI Standard Practice 3-02

WSI Standard Practice 3-09

WSI Security General Orders

REECo Preventative Maintenance Checklist (RE-3626)

Student Training Course Guide for Surrogate Fast Attack Vehicle (SFAV)
SFAV-A007, U.S. Army/Emerson Electric Co.

Organizational and Direct Support Maintenance Repair Parts Manual for the
Surrogate Fast Attack Vehicle (SFAV) EM-1150-23P, U.S. Army/Chenoweth
Racing Products, Inc.

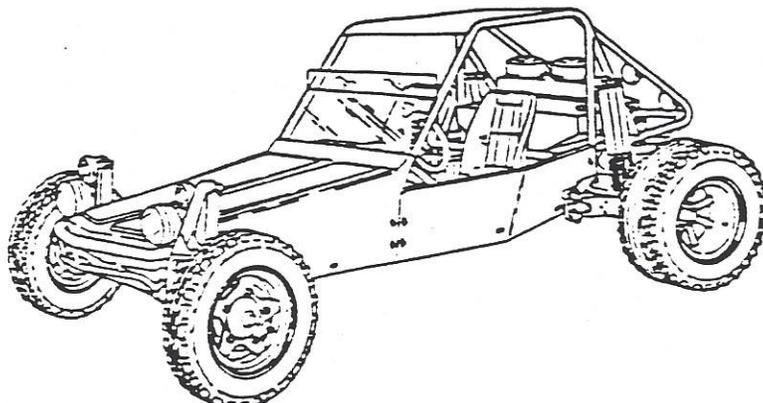
Shop Maintenance Service and Repair Manual for the Surrogate Fast Attack
Vehicle (SFAV), EM-1150-23, U.S. Army/Emerson Electric Co.

Operator's Manual for the Surrogate Fast Attack Vehicle (SFAV), EM-1150-10,
U.S. Army/Emerson Electric Co.

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APPENDIX A

FAST ATTACK VEHICLE (FAV)



THREE-QUARTER VIEW OF FAV (LEFT SIDE)

DESCRIPTION: The FAV is a highly mobile, transportable, lightweight, off-road attack vehicle intended for use where speed, agility, and reliability on rough terrain are essential to the accomplishment of a mission.

PERFORMANCE CHARACTERISTICS: The FAV is equipped with a 16 gallon fuel tank, which provides an operating range of approximately 300 miles, or 8 to 10 hours. The vehicle may be operated in most weather conditions from light snow or rain, to the hot, dry and dusty conditions common to the NTS. Fully equipped, the vehicle can accelerate from 0-30 mph in less than 4 seconds. Hand-operated hydraulic steering brakes on the rear wheels provide additional stability during tight, high-speed turns.

PERFORMANCE SPECIFICATIONS:

Speed (Maximum)	84 mph +
Acceleration 0-60 mph	Less than 12 seconds
Horsepower	94 hp @ 4400 rpm (nominal)
Compression Ratio	8:1
Fuel Consumption	30 mpg (average)
Fuel Capacity	16 gallons
Turning Radius	22 feet (minimum)

PHYSICAL CHARACTERISTICS:

Length	146 inches (approximate)
Width (Outside Wheel to Wheel)	76 inches (approximate)
Height	57 inches (approximate)
Ground Clearance	13.2 inches (minimum)
Weight	1540 pounds
Wheel Base	103 inches
Gross Weight	2440 pounds

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ENGINE DATA:

Type Engine	Modified VW 1984 cc, 4 cylinder
Fuel System	Gasoline, standard carburetion
Type Fuel	Unleaded (87 octane) commercial or military grade
Type Cooling	Air cooled
Transmission	Synchromesh Transaxle

ELECTRICAL SYSTEM:

System Voltage	12 volts
Alternator Output	14 volts, 55 amperes
Battery Capacity	100 ampere-hours

CHASSIS CHARACTERISTICS:

Frame Type	Welded, tubular, 4130 Chromoly
Suspension (Front)	Standard fixed with VW type torsion bar, king pin, adjustable joint and double gas-filled shock absorber
Suspension (Rear)	Modified with 2 gas-filled shock absorbers
Steering	Rack and pinion
Brakes (Rear)	Hydraulic drum type
Brakes (Front)	Hydraulic drum type
Wheels (Front)	Five-lug 15 x 5
Wheels (Rear)	Five-lug 15 x 8 offset
Tires (Front)	Four-ply E78-15, National Commando (or equivalent) (tube type)
Tires (Rear)	Four-ply 31 x 11.50 R15 Goodyear Wrangler (or equivalent) (tube type)
Tire Pressure	
Front	18 psi
Rear	20 psi

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SOP-FAV
9 JUN 87

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SECURITY FORCE HEADQUARTERS
NEVADA OPERATIONS

STANDARD OPERATING PROCEDURE: FAST ATTACK VEHICLE (FAV)

I. GENERAL

Sixteen highly mobile, transportable, lightweight, rough-terrain (off-road) vehicles are assigned to the WSI NTS Security Force. This specialized equipment is intended for use where speed, agility and reliability on rough terrain are essential to the accomplishment of an assigned mission involving a specific role and/or special operations.

II. SCOPE

The FAV fleet is under the custody and direction of the Training Section (TS) Captain. Responsibility includes: Vehicle operational readiness status; appropriate maintenance scheduling; and operator training and certification. Only personnel authorized by the TS will be permitted to operate the FAV.

III. MISSION/MANAGEMENT CONCEPT

The FAV's use of speed, its small size and silhouette, and excellent cross-country mobility allied to good anti-personnel firepower, make it an effective NTS security resource. Coupled with command and control communications, it possesses a multi-role capability for use in such tasks as: movement to contact; exploitation; pursuit and envelopment; and reconnaissance and surveillance.

Any assignment of the FAV to specific missions other than those listed in paragraph IV., A., of this SOP, and the intended manner of employment in support of that mission, will require the prior approval of WSI Management, e.g., General Manager, Deputy Manager/Chief of Field Operations. The Training Section's FAV fleet custody and training responsibility does not include such authorization (Ref. II. Scope). However, the TS and WSI Safety will provide experiential data, upon request, for the decision-making process regarding the employment of the FAV and will be considered as primary resources.

IV. FAV OPERATIONS

The FAV will be used to support the following missions and/or organizations:

- A. Convoy Escort: Two FAV's will be available to provide supplemental escort support of Special Nuclear Material (SNM) whose convoy procedures are described in the following directives; SASO: SRT-1, SASO: Forward Areas and Section IV., Paragraph B.3.a. of the Shipment Security Manual.

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SOP-FAV
9 JUN 87
Page 2

UNITED STATES DEPARTMENT OF ENERGY
SECURITY FORCE HEADQUARTERS
NEVADA OPERATIONS

- B. Airborne Response Team (ART) Backup: Two FAV's will be assigned to the ART for backup response. Procedures for their employment will be in accordance with ART-SOP, Section XII., Pages 22/23.
- C. Area 27 Station/Patrol: Two FAV's will be assigned to Area 27 to supplement the existing defense/tactical response posture. Procedures will be as described in SASO SRT-1 (Area 27) and Area 27 Tactical Response Plan (C).
- D. FAV Training Resources: Four FAV's will be assigned to the Training Section to facilitate operator training and certification and ongoing safety analysis.
- E. FAV Ready-Line: Three FAV's will be kept in ready status for use by organizations requiring their unique capability. Only prior-approved mission use will be authorized and only with TS certified operators. Organizations authorized access to the vehicle pool are: The Field Force (event sweeps, joint ART/FAV sweeps, penetrator control, demonstrator control); Property Protection Unit (use is classified). In the event the availability of a sufficient number of FAV's to support a specific mission is in question, the intended mission with the highest security priority will take precedence.
- F. Maintenance: It is anticipated that three FAV's, at any one time, will be undergoing either periodic maintenance or damage/failure repair. If a lower in-commission rate is experienced, operational vehicles will be assigned by mission priority as described in preceding paragraph E.

V. TRAINING

- A. Driving instruction and associated operator-level maintenance procedures will be under the direction of the TS. All training program material, equipment and facilities will be subject to periodic assessment by the WSI Safety Specialist and QA.
- B. Driving Instructors: Training Section instructors used for the conduct of FAV training must have completed a trainer qualification course from either the FAV manufacturer's representatives or from an internal course of instruction conducted by trainer qualified instructors assigned to the Training Section.
- C. Driver Training:
 - 1. FAV Driver Candidates: Selection criteria for the recommendation of employees for attendance of the FAV Driver

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NTS-SF
SOP-FAV
9 JUN 87
Page 3

UNITED STATES DEPARTMENT OF ENERGY
SECURITY FORCE HEADQUARTERS
NEVADA OPERATIONS

Course will include, but will not be limited to, the following listed guidelines:

- a. Meet the defensive standards identified in 10CFR1046.
 - b. One year of exposure to NTS field operations (area knowledge).
 - c. Hold a valid Nevada State Driver's license.
 - d. Good past work performance.
 - e. No speeding tickets or preventable vehicle accidents, for a period of one year.
 - f. Good attendance record for a two-year period.
 - g. Volunteer for the assignment.
2. Training Criteria: The driver training course will contain the following subject content:
- a. Unimproved road operation techniques.
 - b. Cross-country operation techniques.
 - c. Recognition of terrain features impacting on driving operations and safety.
 - d. Cutting brake utilization.
 - e. Vehicle operation safety.
 - f. Operator maintenance.
 - g. Backing technique.
 - h. Night driving technique.
- D. Lesson Plans: The Captain, TS is responsible for developing and keeping on file those lesson plans for both the instructor training and the driver training course. Instructors will not deviate from lesson plans without prior approval of the Captain, TS.

VI. SAFETY

- A. The risk factors associated with the operation of the FAV equipment in support of NTS security requirements have been identified and

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SOP-FAV
9 JUN 87
Page 4

UNITED STATES DEPARTMENT OF ENERGY
SECURITY FORCE HEADQUARTERS
NEVADA OPERATIONS

quantified to the maximum extent practicable in a Safety Analysis Report (SAR) which will be kept on file, to be reviewed periodically by the WSI Safety Specialist. The risk assessment and safety analysis process has resulted in the application of safety system principles whereby decisions have been made concerning control and minimization of hazards and acceptance of residual risks.

The effectiveness and reliability of our safety program to reduce and control hazards require that all personnel adhere to the operating procedures and recommendations developed by management and supervision.

1. Reporting: All incidents related to the safe operation of FAV equipment shall be documented on WSI Form 112 (Irregularity Report) and submitted through the supervisory staff for appropriate action.
2. Equipment:
 - a. All operators will wear TS approved equipment, e.g. helmet, gloves, eye protection, safety shoes/boots, long-sleeved outer garment. The aforementioned equipment is considered as the minimum that will be worn at any time during FAV operation. At no time will any equipment be worn by either the driver or passenger that will come between their person and the five-point restraining system or the seat. The potential for injury to the hip, rib-cage, cervical, vertebrae and internal organs warrants this restriction.
 - b. No equipment or systems other than those which have been approved by the TS will be carried by or affixed to the FAV. Approval by the TS constitutes an awareness that the equipment/systems are in fact mission essential and present no unacceptable operational safety hazard (See Appendix A - Vehicle Inventory).
 - c. Other than side arms, all weapons will be both secured and protected from those elements (or effects) that would otherwise render them inoperable, e.g. dirt/dust, mud, physical damage. They will be so located in the left and right pods as to enable their rapid recovery should they be required for immediate response. In meeting this requirement the placement of these weapons should present no unacceptable operational safety hazard.
 - d. At no time will the FAV depart on any assigned mission

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SOP-FAV
9 JUN 87
Page 5

UNITED STATES DEPARTMENT OF ENERGY SECURITY FORCE HEADQUARTERS NEVADA OPERATIONS

without an operable radio (ground-to-ground, air-to-ground, or both, as required). To assure both mission and/or emergency communications are functioning, all radio equipment will be operationally checked prior to departure. If radio silence is in effect this requirement is waived.

e. A first aid kit will be carried on the FAV at all times. It will be secured in such a way to assure case integrity and the protection of its contents (See Appendix A - Vehicle Inventory).

3. Personnel Accountability: Prior to departing for off-road operations (when feasible), operators will inform their supervisor of their intended area of travel and provide an estimated time of return (ETR). Once off-road, if the operator requires more time a new estimated ETR will be transmitted by radio to the individual's supervisor. Three smoke grenades (1 red/2 white) will be carried to facilitate locating the FAV in either an emergency or operational failure situation as required.

VII. MAINTENANCE

- A. Major and periodic maintenance will be the responsibility of the REECo Fleet Operations Department. The REECo personnel performing such maintenance on the FAV will be those who received special training or those subsequently trained by REECo personnel who were initially trained by the factory. All retraining or initial training will include factory revisions and/or updates to maintenance/inspection manuals by the FAV's factory mechanics. Deviation from this requirement will only be for minor maintenance if factory trained mechanics are not available. In the interest of safety, this high performance equipment, should if at all possible, be maintained by FAV certified mechanics.
- B. Minor maintenance and inspection will be the responsibility of the FAV operator. Necessary tools/parts will be stored in the FAV for this purpose (See Appendix A - Vehicle Inventory). An operator pre- and post-operation checklist will be in the FAV at all times and will be used prior to and at the conclusion of its operation (See Appendix B - Activity Report Supplement/Checklist). Any discrepancies noted will be entered on the maintenance log and the TS notified.
- C. A FAV tow bar which has been specifically designed for the vehicle, is to be used when the equipment needs to be towed to the maintenance facility for major repair. Towing with the bar while

OFFICIAL USE ONLY

OFFICIAL USE ONLY

NTS-SF
SOP-FAV
3 JUN 87
Page 6

UNITED STATES DEPARTMENT OF ENERGY
SECURITY FORCE HEADQUARTERS
NEVADA OPERATIONS

off-road will be dictated by terrain features. When moving a FAV on trafficked roads for any reason, i.e. to a field insertion point, repair facility etc., portable brake lights will be mounted on the rear of the FAV and connected to the tow vehicle's brake light/parking light electrical system. A "slow moving vehicle" warning device will, in any case, be attached to the rear of the FAV while under tow.

VIII. AGREEMENT

All operators will be knowledgeable of the content of this procedure and will comply with same. A statement of this understanding will be provided to operators during their training and certification. They will print their name, affix their signature and date, and return the document to the TS. It will be kept in their respective training file. A master list of authorized drivers will be kept current and provided to the Chief, Major, Field Captains, Operations Captain and Planning Division Director.

APPENDICES:

- A. Vehicle Inventory
3. Activity Report Supplement/Checklist



R. C. Diekmann
Deputy Manager/Chief of Field Operations
Wackenhut Services, Incorporated

Authorized and Approved by:



Robert B. Synell
DOE Safeguards & Security Division

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APPENDIX A

VEHICLE INVENTORY

- * Can #1 - Drivers side rear of pod - sealed.
Smoke: 2 white 1 red
Fuzees: 4 Red Hand-Held

Tool Kit: 1 - 6mm allen wrench
1 - 3/8" allen wrench
1 - Small common screwdriver
1 - Diagonal cutters
1 - Pliers slip joint
1 - 6" crescent wrench
1 - 8" crescent wrench
1 - 6" common screwdriver
1 - Snake-bite cold packs

- * Can #2 - Passenger side rear of pod.
Jack
Lug wrench
First Aid kit
Fire Extinguisher

- * Attached to Frame Rails:
Tow rope or strap
Several feet of duct tape
Several feet of tie wire
Extra fan belt
Two (2) canteens

APPENDIX B

WACKENHUT SERVICES, INC. - NEVADA TEST SITE

ACTIVITY REPORT SUPPLEMENT/CHECKLIST

On: _____ Date: _____ Section: _____

Vehicle Condition: _____ Inventory Complete/Clean/Functional: _____

Odometer Reading: Begin - _____ End - _____ DRV.: _____ VC.: _____

INSPECTION CHECK LIST

Primary		Standby	
pre	pst	pre	pst

REMARKS

*CHECK SPLINE BOLTS ON CONSTANT VELOCITY JOINTS

*CHECK SHOCK ABSORBER MOUNTINGS

*CHECK TIRES FOR PRESSURE, CUTS, TEARS, CRACKS

*CHECK WHEEL LUGS

CHECK SPARK PLUG WIRES FOR PROPER CONNECTION

AND SIGNS OF WEAR

*CHECK ALTERNATOR DRIVE BELT FOR SIGNS OF WEAR-

1 INCH DEFLECTION BETWEEN PULLEYS

*CHECK ENGINE OIL LEVEL - ENSURE OIL CAP IS

SECURE - 1/2 INCH OVER FULL MARK WHEN COLD

1. CHECK CARBURETOR AIR CLEANERS (2)

*1. CHECK SKID PLATE BELOW ENGINE FOR SIGNS OF

EXCESSIVE OIL LEAKAGE

CHECK FUEL LEVEL

ENSURE GAS TANK CAP IS SECURE

*MAKE SURE THERE ARE LESS THAN 2 INCHES OF FREE

MOVEMENT OF STEERING WHEEL WHILE VEHICLE IS

STATIONARY

FILL CANTEENS

TOP OFF FUEL LOAD

CLEAN DEBRIS FROM VEHICLE

EMPTY CANTEENS AND RECAP

LOCK VEHICLE

NOTE: ITEMS WITH ASTERISKS MUST BE CORRECTED BEFORE UNIT IS USED