

Great Basin Engine Academy

Executive Summary

2009



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Great Basin Engine Academy
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Introduction

The second annual Great Basin Engine Academy (GBEA) was held in Layton, Utah at the Davis Conference Center and the Uinta-Wasatch-Cache National Forest Air Tanker Base located at Hill Air Force Base April 27 – May 8, 2009. There were 38 nominations received, and 24 students selected to attend the academy. Of the 38 nominations, all were Forest Service employees from Region 4. Of the 24 students who attended, 24 successfully completed the academy.

The top student, Conner P. Gardai from the Boise National Forest, received 95.44%, while the class average was 90.83%. The top engine company was Type 4 Engine Company 5, which consisted of Adam Harrison and Conner P. Gardai from the Boise National Forest, Matt Ginder from the Sawtooth National Forest, and Todd B. Moore from the Humboldt-Toiyabe National Forest. The company was coached by Milena Rockwood and had a combined score of 93.26%.

The testing consisted of 2 pretests, a PM test, a stationary pumping practical, a driving pumping practical, 2 driving skills tests, a mid-term, and a final exam. Successful completion of this course requires a score of 80% overall. Any score less than 70% is not a passing score (this does not include the pretest scores). Students can pass academically; however still fail in the practical exams. If a student passes the academic portions, but fails the practical portions, he or she will be encouraged to return next year to complete the practical portions of the academy. Failure academically will require a student to retake the entire 2 week academy.

The Academy mission is to provide opportunities for students to refine their driving skills in a variety of environments, refine their pumping and hydraulics skills, become more proficient in their operation and maintenance of fire apparatus, and provide the home unit with a comprehensive evaluation of the student. The Academy objectives are as follows:

- A. Upon completion of the Great Basin Engine Academy, each trainee will demonstrate a working knowledge of the Region 4 Type 6 and 4 Engines. Increased knowledge of maintenance, operation, capability, and limitations of these engines is the academy's main focus. There are three core sections of instruction:
 - 1. Unit I - Vehicle and Pump Maintenance
 - 2. Unit II - Driving
 - 3. Unit III - Pumping and Hydraulics

- B. Emphasis throughout the engine academy is placed on increasing the trainees' level of safety awareness in all aspects of fire engine operations. In addition, the underlying goal of the Engine Academy is to realize a future cost savings to the government through:
 - 1. Recognition of potential equipment breakdowns or malfunctions caused by improper or neglected preventative maintenance procedures
 - 2. Increased level of safety awareness, which may prevent avoidable accidents, therefore fewer dollars spent on lost-time accidents and/or vehicular damage

3. Increased level of skill and proficiency with fire engine operations through formal training, increasing wildland fire effectiveness

C. Employee Development

1. Provide the foundation for future Managers, Engine Captains, Engine Operators, Lead Crew, and Senior Firefighters
2. Provide students with increased level of awareness as to their capabilities and supervisory responsibility

This executive summary will briefly review events that occurred in each functional group, as well as list the lessons learned and opportunities for improvement. The Engine Academy Team is comprised of 32 personnel. The Great Basin Engine Academy Organization Chart is located in Appendix A, page 7.

Command

A vision for the planning, management, presentation, and implementation of the Great Basin Engine Academy is to eventually have all the positions on the management team filled by personnel from the engine community who are graduates from a Forest Service Regional Engine Academy (Region 3, 4 or, 5). A target date for this vision is 2011. The primary limiting factor is having enough qualified and motivated engine academy graduates available in Region 4 to participate.

The second GBEA had 34 management team members with 14 positions being held by Engine Academy graduates. In 2010 hopefully an additional 3-6 management team can be held by graduates. By 2011 nearly all positions should have graduate shadowing an experienced team member.

The 2009 GBEA was 100% Forest Service personnel, both management team members and students. Federal wildland fire management agencies in the Department of Interior will be approached in 2010 to see if there is any interest in participating in the academy.

Safety

During the zero week and two weeks of training of the 2009 GBEA there were no injuries to team members or students and no major vehicle accidents. A few vehicles were taken into the commercial shops for repair and home units were notified. Eleven JHA's were reviewed and signed by all team members and students that attended. The JHA's were; Office work, driving, vehicle maintenance, vehicle fire suppression, auto shop, field work, personal safety, testing fire hose, traffic accidents/medical accidents, cone courses, and working around fire engine apparatus. There were a few problems with vehicles while traveling in the city and at the off-road course. Spare engines were available and used when any coach/student had issues with the truck they were driving. The drivers completed a safety circle prior to entering any engine. On the off-road course, one vehicle took a heavy amount of water into the air intake while going through the water puddles on the drive out. Minor vehicle damage was repaired by the maintenance shop. A daily safety briefing was given to the team members and students at the morning briefing.

The Safety Officer's role was to:

1. Design and complete the Job Hazard Analysis (JHA's) needed prior to the Academy.

2. Attach a daily safety messages to the ICS-202 within the Incident Action Plan (IAP).
3. Complete the Medical Plan for the IAP.
4. Deliver the morning safety briefing and weather forecast to the team and students.
5. Serve as a vital role in accident reporting and investigation for any medical injury or accident that could potentially have adverse effects on the Academy.
6. Heighten the level of situational awareness throughout the Academy.
7. Help facilitate and provide any extra support to those groups/functions that needed it.

Dirk Huber presented a Lessons Learned power point presentation that covered the Ashley National Forests heavy engine rollover in 2007 that he and his crew were involved in. All of the "Safe or Unsafe Acts" throughout the Academy were discussed on a daily basis having the highest priority during the team planning meetings. The lessons learned bullets cover most, if not all major and minor items related to safety.

Information

All cameras and other picture taking devices (cell phones with picture taking capability) are strictly prohibited from use within controlled areas unless approved in writing by a commander, deputy or authorized representative of the controlled area. Photo and video authorization was obtained from the Commander of the 75th Operations Support Squadron prior to the 2009 Academy. The only management team members authorized to take photos and videos at the tanker base were two information personnel and the team leader.

A media event was held on skills day, May 5, 2009 at the Uinta-Wasatch-Cache National Forest Tanker Base. It was attended by FOX 13 and Ogden Standard Examiner reporter Matt Shaw. Photos were also sent to the other three television stations and other local newspapers that could not participate. Both stories pertaining to the GBEA were positive and informative. A media packet was put together for this event, which included the following:

- Briefing Paper
- IAP
- Media Advisory

An open invitation to visit the Academy was given to the Regional Leadership Team and the Regional FMO's. Five Forest Service individuals took advantage of the invitation and visited the Academy. Feedback from these individuals was extremely positive.

Packets were put together for FS employees and included the following:

- 2008 Executive Summary
- IAP
- Briefing Paper

Student profile packets were assembled for the coaches and certain team members. A DVD containing photos and video footage taken during the academy of student's activities was prepared and given to students, team members, and military personal. The DVD is also being used for historical documentation. Certificates of Appreciation were completed for individuals that supported the academy.

Planning

The planning section served two roles in the 2009 GBEA: first in the development and planning process and secondly in the operational phase of the event. Several planning meetings were critical to start the academy off on the right foot. Meetings topics included:

- Development of the academy schedule and incident action plans
- Development of call letters to request engines and support from throughout the region
- Development of the student nomination and selection process
- Pre work delivery and review

A rented printer with collating, stapling, and connectivity functions was found to be extremely efficient and a major time saver for the GBEA. Each function used a thumb drive during the academy to store their data. All files from each function were stored on an external drive at the close of the academy. Much of that data was transferred to the Great Basin Engine Committee intranet website, where it is available to the engine community.

During the operational phase of the academy, the team found the ICS positions, Plans and Planning Operations, instrumental in facilitating daily briefings, classroom sessions, and exams. These positions allowed the team to stay on track, and the flexibility to make adjustments with little interruption to the students in the academy.

Logistics

The location for the Academy was in Layton, Utah, which was the same as 2008. Field exercises were held at the Forest Service Retardant Tanker facility at Hill Air Force Base and the Davis Conference Center was utilized for the Classroom, ICP, and Graduation ceremonies. Shuttle vehicles were provided to transport the engine companies between field and classroom locations, which were located approximately 15 minutes apart. Two backup field locations, on Hill AFB, were identified should a need arise.

Students here housed at the Hilton Garden Inn (attached to the Davis Conference Center). Due to a shortage of available rooms (and confusion by the hotel staff) the Academy staff stayed at the Holiday Inn Express, Townplace at Marriott, and La Quinta as well as the Hilton Garden Inn. All hotels were within 5 minutes walk of the Davis Conference Center. Restaurants, malls, grocery stores, and theaters were plentiful and all within easy walking distance of the Davis Conference Center. Cost savings in housing was accomplished by doubling up students.

Students and staff were required to provide their own meals. Water Bottles were provided to the students to save costs of providing bottled water and eliminated the need to recycle hundreds of disposable plastic bottles.

Purchasing of supplies was limited to a few authorized individuals. All purchases were recorded on a ledger spreadsheet, individually identified by a sequenced numbering system. A copy of each receipt will be maintained in a Receipt folder within the Finance file box.

Support Staff

The support staff consisted of five individuals. This was two less members than last year, which created problems supporting Operations and Maintenance needs simultaneously. It is recommended that the Support Staff return to six or seven members for 2010. This group was responsible for setup, breakdown, and support of daily field activities (both at Davis and Hill) as well as supporting maintenance needs. Two of the staff were previous Engine Academy (R4) graduates, only 2 were CDL qualified, and one was identified as an alternate student. Having support staff that were academy graduates and CDL qualified was invaluable in maintaining flexibility. Graduates knew what was needed for each station and course, required minimal supervision and were proactive in identifying potential problems and maintaining readiness at the stations and driving courses. Access to a UTV was an extremely useful tool, saving time and energy in responding to needs.

Finance

The budget was based on meeting room costs, travel & per diem, supplies, overtime, and mileage. The 2009 academy charged tuition of \$2,350 per student. The tuition paid for all the travel and per diem for the team members during the dates of April 19 – May 8, 2009, and some vehicle mileage. Travel and per diem costs were less in 2009 due to the travel cap which cancelled the dry run preparation week. Activities normally conducted during the dry run week were moved to week 0 of the engine academy. The largest difference between 2008 and 2009 are in the mileage costs. This is due to inaccurate tracking in 2008 and the addition of more trucks needed for the academy in 2009. The 2008 costs would be similar to the 2009 mileage if costs had been tracked more precisely. New procedures were put into place to accurately track mileage. The Regional Office did reimburse each student's forest \$500 to offset some of the tuition costs.

The following table demonstrates the cost break down for our 2009 Academy.

	Travel/ Perdiem	Purchases	Overtime	Mileage	Totals
2008 GBEA	\$59,700	\$13,300	\$37,300	\$15,300	\$125,600
2009 GBEA	\$46,400	\$17,600	\$37,500	\$30,000	\$131,500

Operations

In 2009 the operations section consisted of both a "field" and "planning" ops. As shown in the organization chart, the Coaching, Driving, Pumping, and Maintenance Units all worked for operations.

One of the overall objectives within the GBEA is to eventually transition all operational positions within the cadre to the past Engine Academy graduates within the engine community. This year the following operations positions were "shadowed" by past graduates or are already held by former engine academy students:

- Field Operations was shadowed by former student who was also last year's "Coaches Coach"
- Planning Operations – a past graduate has been identified and will shadow this position next year (2010)
- Driving Unit was shadowed by former student who was also a coach last year
- Maintenance was shadowed by former student who was also a coach last year

- Pumping Unit is currently lead by former student. Within the pumping unit there are currently 2 additional members whom are both past graduates
- Coaches Coach – was held by a former student who was also a previous coach
- Coaches – of the six coaches from last year, one remained in his coaching position, three stayed with the GBEA in other “shadowing” positions and two did not return to the academy. All 5 new coaches this year were past graduates.

Throughout the three main weeks of the GBEA, including weeks 0, 1, and 2”, the operations organization was heavily involved in both the refining of both the two week planned schedule along with the daily schedule. Operations also concentrated on the creating of more efficient and practical ways to implement the structure of day-to-day events. A major component of both the field and planning operations time was spent working on the daily schedules of all field and operational skills days. Understandably, as this was just the second year of implementation, there were many hurdles that popped up and had to be overcome. One major hurdle which will be common every year is dealing with the spring rain of Utah. This rain affects all outdoor activity and nothing can really be done with the exception of the practical tasks of re-marking and painting the driving courses, and coordinating field activities to be held at different times when the rain is not an issue. Thanks in part to the flexibility of the operations organization as a whole; the overall academy was successfully coordinated and implemented.

The academy requested that each Forest to send Type 6 and Type 4 engines. Ten Forests sent engines to support the academy. The academy had a total of 13 Type 6 engines and 12 Type 4 engines. Every engine was utilized during the academy in either pumping operations, driving skills and maintenance.

During the two week academy there was a total seven evening sessions for students to practice skills and knowledge in water hydraulics, driving techniques and pumping operations. There were a total of five skills days during the academy.

Coaches

In 2009 there were six coaches and one coach lead assigned to the academy. The coaches were assigned to a company of four students to mentor and support throughout the academy and were given skill stations to instruct. The coach lead oversaw the coaches, helped support them with their field exercises, acted as a liaison between the command and general staff and the coaching unit, and was given field stations to instruct. Due to losing five of the seven individuals that filled coaching positions from 2008, the coaching staff encountered a few bumps in the road at the beginning due to unfamiliarity of our new roles but the individuals adapted very quickly and things ran very smoothly.

Prior to the academy, the coaches were tasked with the contacting of the students to inform them of their acceptance to the academy and to have them prepared with all the necessary equipment, information, and mental attitude to have the opportunity to succeed upon their arrival.

During week Zero, the coaches assisted the other units by helping set up the driving courses, pump testing the engines, inspecting the engines at the initial check in, and in the refining of the schedules for the two upcoming weeks.

During the academy, the coach’s focuses were to mentor, coach, and instruct the students, and they made themselves available at all times to accomplish this. The coaching unit organized and conducted

the team building ice breaker exercise on the first day of class. They met with the companies at least twice daily covering a variety of topics which included reviewing tests and quizzes. Coaches wrote a daily report for their company and shared it with the coach lead, which describes the student's progress, attitude, and leadership skills, which the lead shared in the nightly AAR. The coaching unit met with the Command and General Staff at the end of the academy to evaluate each student in the areas mentioned above and recommend whether a student should be invited back to fill a position in the team's organization the following year. This unit also oversaw the portable pump troubleshooting, mobile attack, and airbrake field stations. The coaches helped the driving unit introduce the dogleg, evasive maneuvers, and i-zone driving courses and oversaw after hour practice sessions including a six-hour session on Sunday. Coaches also fill in where needed on field days, testing days, and preparing courses and vehicles for those days.

Driving

The Driving Unit was staffed with three personnel this year. The group implemented and tested for the Dog Leg, I-Zone, Evasive Maneuvers, and the Cross Country/Off-Road courses for both the Type 6 and Type 4 engines.

The Dogleg is an intense serpentine driving course that incorporates both skills in forward driving and backing. It is typically the most complicated course that usually results in a couple students failing. This year everyone passed the course. The Academy had one student return from the academy in 2008 to retake the dogleg, this individual successfully passed.

The I-Zone is a backing exercise that simulates skills used in alley docking and maneuvering engines in tight locations.

Evasive Manuvers is a emergency avoidance maneuver and vehicle control development course that helps operators develop sound defensive driving skills. This skill simulates an obstacle that moves into the path of a vehicle, and allows the driver to make safe and controlled maneuvers.

Cross Country and Off Road driving consists of two courses that are completed simultaneously. The Cross Country portion of this course travels through urban areas of Layton, Kaysville, Farmington, and Centerville, UT where the Off-Road Course starts. During the Cross Country portion, the coach is riding with each student, reviewing each students driving ability compared to academy approved driving checklist evaluating items such as bridge height limits, following distances, school zone's etc.

The Off-Road portion is a pre-established course designed to give the students the needed driving and decision making skills in off-road driving. This course includes a hill climb, side hill driving, Go or No Go and a blind backing exercise. The exercises teach each student the skills to maneuver the vehicle in a safe manner on uneven terrain and have a better understanding of the vehicles limitations. All these skills have been tested by academy personnel and have been proven to be valuable in Off-Road Driving.

The final section of the course is highway and interstate driving, which teaches, as well as allows each student to practice the needed defensive driving, driving safety in urban areas and high speed highway and interstate driving.

Pumping

The Pumping Unit was staffed with three personnel this year. One more individual was added the last minute from the local area so there would be two people dedicated to drafting. Subjects covered during classroom setting were, Pump Theory, Hydraulics, Portable Pumps, and Foam. The test scores indicated that all classroom curriculums were presented thoroughly by instructors and easily understood by students. A pumping representative was present during the mid-term and final exams to answer any questions by student and to assist in grading. Quizzes were successfully administered for Pump Theory and Field Pumping. A practical test on proper Drafting Procedures was administered individually for each student and successful completion was required for course completion.

Subjects covered during field portions included Portable Pumps, Series and Parallel hose lays, proper drafting techniques, Mobile Attack, Foam, Hydrant use, and Ejectors. Evening study sessions were held nightly for Hydraulics and Field Pumping/Drafting.

In future Academies, basic hydraulics or portable pumps should not be taught. This is information and knowledge students should have received in S-211. By the 2011 academy, the pumping and hydraulics curriculum should shift from basic information to real world, hands on practical teaching. For example, large complex hose lays that students would have multiple ways of completing and have to incorporate multiple pumps with series and parallel hose lays.

Maintenance

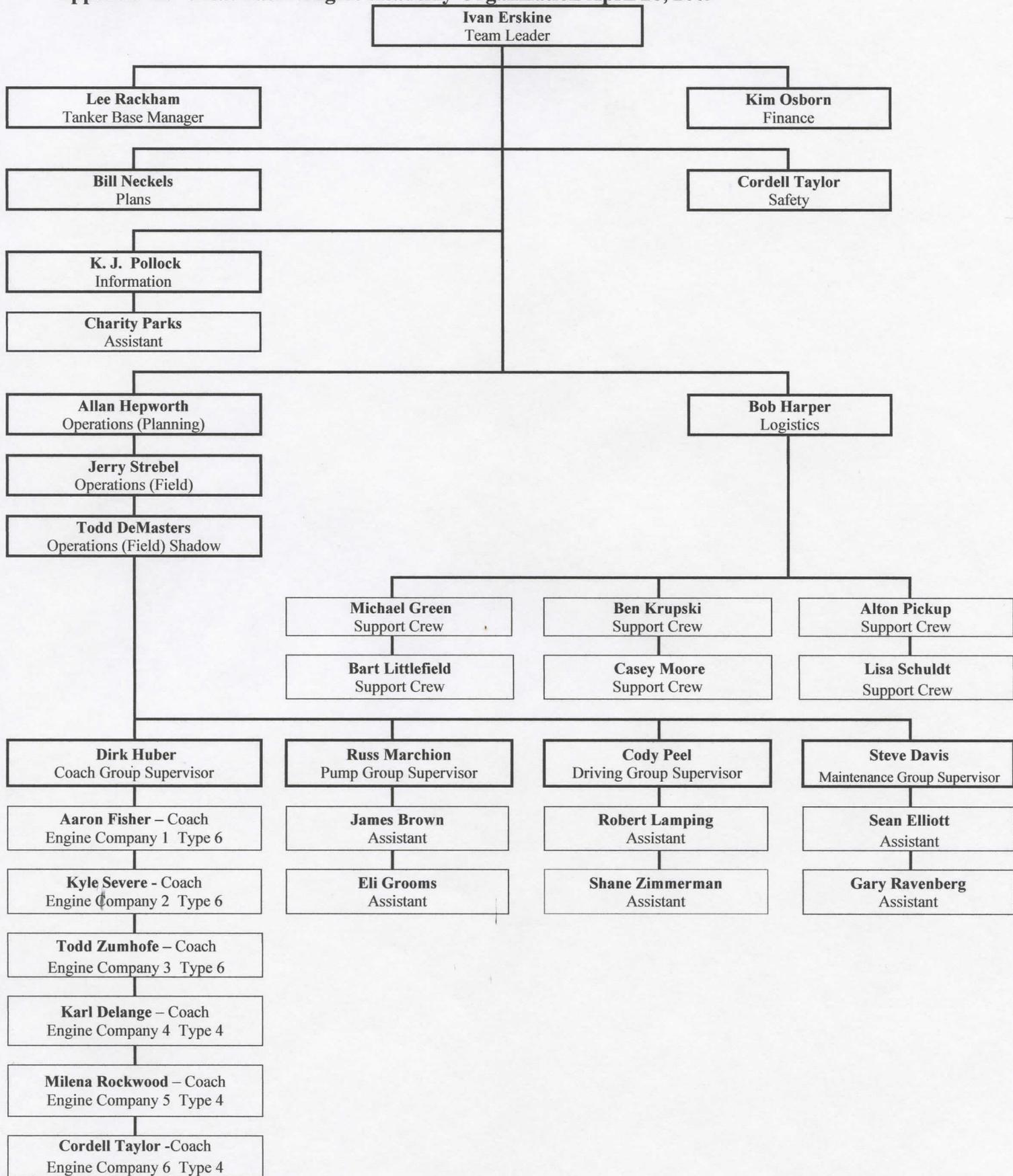
The maintenance group had two individuals designated for maintenance only and the other four were from the support group. It is recommended at the 2010 engine academy, to have one more person assigned to the maintenance group.

During week zero, trucks started arriving on Monday, April 20, 2009, for inspection of the vehicle and pump units. Twelve Type 4 engines, thirteen Type 6 engines, and eight support vehicles were inspected. Inspections were done by four support group individuals, and two maintenance group individuals. Initial inspections revealed minor problems and three trucks with major problems (tie rods). Pump testing revealed minor plumbing and foam system leaks, and a pump head with seals gone. A pump head on a new type 4 seized up with only minutes of run time.

There were additional truck and pump problems during week one of the academy as the driving and pumping sections moved forward with their training programs (bad brakes and plumbing issues).

The most significant maintenance cost that occurred during the academy was a Type 6 engine was a blown diesel motor. The truck was in its last service year, and repair cost were estimate at \$12,900. The majority of the engines used were in good condition or new. The older vehicles, as would be expected, had the most costly repairs, and there were issues with the new International Type 4 Engines that have the new regeneration systems.

Appendix A: Great Basin Engine Academy Organization April 26, 2009



Appendix B: 2009 Engine Companies

Great Basin Engine Academy
 Engine Companies
 2009

Engine Company 1 Type 6	POS	M/F	Forest
Stuart Coombs	Eng	M	FIF
Adam Hulse	Cap	M	SCF
Richard E. Lancaster	Cap	M	BTF
Adam McKean	Eng	M	STF
Coach: Aaron Fischer			

Engine Company 4 Type 4	POS	M/F	Forest
Michael S. Erickson	Eng	M	UWC
Ryan Erne	Eng	M	BOF
Joe G. Kimble	Lead	M	PAF
Frank J. Machler	Eng	M	HTF
Coach: Karl Delange			

Engine Company 2 Type 6	POS	M/F	Forest
Patrick L. Davis	Cap	M	SCF
Trevor B. Frandsen	Cap	M	DIF
David Inskeep	Eng	M	CTF
Donald J. Lloyd	Eng	M	MLF
Coach: Kyle Severe			

Engine Company 5* Type 4	POS	M/F	Forest
Connor P. Gardai**	Eng	M	BOF
Matt Ginder	Cap	M	STF
Adam Harrison	Eng	M	BOF
Todd B. Moore	Cap	M	HTF
Coach: Melina Rockwood			

Engine Company 3 Type 6	POS	M/F	Forest
Jeremy D. Bryant	Cap	M	STF
Jeffrey G. Flick	Cap	M	MLF
Mark Stoker	Eng	M	CTF
Jamie Tyson	Sff	M	ASF
Coach: Todd Zumhofe			

Engine Company 6 Type 4	POS	M/F	Forest
Jared D. Peak	Lead	M	BOF
Mike V. Spilde	Cap	M	UWC
Michael A. Watson	Lead	M	UWC
Jonathan White	Eng	M	BTF
Coach: Cordell Taylor			

Top Company *

Top Student **

Appendix C: 2008 Engine Maintenance Record

1.	Home Unit	Engine Number	Description	Discrepancies	Repairs Completed
2.	CTF	6314 <u>\$ 770.00</u>	Type 6 Ford F-550 2001	<ul style="list-style-type: none"> • Brakes on truck • Pump motor needs inline fuel shut off and clear fuel filter and primer bulb. • Low oil light, power on indicator light and night control panel light not working • Needs rock trap and primer drain • number one valve leaks 	<ul style="list-style-type: none"> • Brakes Hydro Assist, Westland Ford • Added inline fuel shut off, clear fuel filter and new primer bulb. • Replaced bulbs for low oil, ignition on and control panel night light. • Added petcock drains to rock trap and primer. • Replaced number one valve
3.	STF	6137 <u>\$ 1200.00</u> Estimate For Motor <u>\$ 12,900</u>	Type 6 Ford F-450 2001	<ul style="list-style-type: none"> • Tie Rod Ends, Heater fan. • Misc Lights • Pump Head seals • Truck has exhaust leak and no power 	<ul style="list-style-type: none"> • Tie Rod Ends, Heater Fan • Replaced Bulbs • Had pump head rebuilt • Truck taken to Westland Ford needs a new motor, home forest making decision trucks last year.
4.	HTF	6634	Type 6 Ford F-550 2003	<ul style="list-style-type: none"> • Cab Light • Pump Motor dies 	<ul style="list-style-type: none"> • Replaced Bulb • Replaced Fuel Pump
5.	ASF	6330 <u>\$ 830.00</u>	Type 6 Ford F450 2001	<ul style="list-style-type: none"> • Brake pedal soft and spongy. 	<ul style="list-style-type: none"> • Westland Ford replaced brake control equalizer. 5/5/09
6.	ASF	6326 <u>\$ 1521.00</u>	Type 6 Ford F 550 2001	<ul style="list-style-type: none"> • Tie Rod Ends • Steering Stabilizer Leak • Air Filter • Light Bar Bulb • Motor oil leak • Foam Flush Valve bad • No Primer drain • Control Panel work Light and low oil light not working. • Rear driver side tires need replaced. 	<ul style="list-style-type: none"> • Replaced Tie Rod Ends • Replaced Steering Stabilizer • Replaced Air Filter • Replaced Bulb • Had Oil leak repaired • Replaced foam flush valve • Added petcock drain • Replaced panel work light and low oil light bulbs • Replaced all six tires.
7.	STF	6857	Type 6 Ford F 550 2004	<ul style="list-style-type: none"> • Right Rear work light out. • Pump outlet leak. 	<ul style="list-style-type: none"> • Not fixed. • Replaced casket.
8.	SCF	GSA 1321	Type 6 Ford F-550 2003	<ul style="list-style-type: none"> • Excessive fuel in pump motor oil • Needs primer drain 	<ul style="list-style-type: none"> • Changed oil and filter • Added primer drain petcock.
9.	BTF	4196	Type 6 Ford F-550 2007	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None
10.	BOF	6998	Type 6 Ford F-550 2005	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • None

11.	CTF	4203	Type 6 Ford F-550 2007	<ul style="list-style-type: none"> • Radiator coolant leak 	<ul style="list-style-type: none"> • Replaced Radiator (warranty) by Westland Ford
12.	BTF	4257	Type 6 Dodge 5500 2008	<ul style="list-style-type: none"> • None (New Truck) 	<ul style="list-style-type: none"> • None (New Truck)
13.	CTF	4273	Type 6 Dodge 5500 2008	<ul style="list-style-type: none"> • None (New Truck) 	<ul style="list-style-type: none"> • None (New Truck)
14.	BTF	6629	Type 6 Ford F-550 2003	<ul style="list-style-type: none"> • Proportioner foam line leaks • Flex hose under step leak • Automatic pressure shut off not working 	<ul style="list-style-type: none"> • Replaced fittings • Replaced swivel casket. • Replaced automatic shut off pressure switch
15.	UWCF	4215	Type 4 International 7400 2007	<ul style="list-style-type: none"> • Driver side mud flap torn loose • Pump head froze up. • Dump gate door leak. 	<ul style="list-style-type: none"> • Reattached mud flap • Replaced pump head • Adjusted dump gate door
16.	UWCF	4218	Type 4 International 7400 2007	<ul style="list-style-type: none"> • Power Steering hose leak • Foam Proportioner line leak 	<ul style="list-style-type: none"> • Tightened fitting • Trimmed and reinserted line
17.	UWCF	4217	Type 4 International 7400 2007	<ul style="list-style-type: none"> • Air leak • Rock trap petcock leak • Tank to pump line leak 	<ul style="list-style-type: none"> • Repaired air line • Replaced petcock • Tightened swivel fitting
18.	ASF	4220	Type 4 International 7400 2007	<ul style="list-style-type: none"> • Transmission low on fluid 	<ul style="list-style-type: none"> • Took truck to Lake City International check for leak (none) added correct amount fluid.
19.	UWCF	4216	Type 4 International 7400 2007	<ul style="list-style-type: none"> • Driver side front strobes not working 	<ul style="list-style-type: none"> • No repair at academy
20.	STF	6479 <u>\$ 619.57</u>	Type 4 International 7400 2002	<ul style="list-style-type: none"> • Tie Rod Ends • Exhaust Leak • Input shaft leak • Fuel tank strap pin missing • Leak at pump inlet • Low pressure shut off doesn't work 	<ul style="list-style-type: none"> • Replaced tie rod ends, Seagull Diesel • Repaired, Seagull Diesel • Replaced seal, Seagull Diesel • Replaced pin • Replaced caskets • Replaced pressure switch
21.	WCF	6297 <u>\$ 791.34</u>	Type 4 International 4800 2001	<ul style="list-style-type: none"> • Pitman arm drag link bad • Air leak • Foam controls leak 	<ul style="list-style-type: none"> • Replaced drag link, Seagull Diesel • Repaired air leak, Seagull Diesel • Replaced O Rings in foam control
22.	WCF	6520	Type 4 International 4800 2001	<ul style="list-style-type: none"> • Air hose and auxiliary air hose and fittings bad. • Center carrier bearing makes noise. 	<ul style="list-style-type: none"> • Replaced both hoses and fittings • Home unit needs to have looked at.
23.	ASF	6864	Type 4 International 7400 2004	<ul style="list-style-type: none"> • NONE 	<ul style="list-style-type: none"> • NONE

24.	PAF	8705	Type 4 International 7400 2006	<ul style="list-style-type: none"> • Pump head leak 	<ul style="list-style-type: none"> • Tightened fitting
25.	BOF	6525	Type 4 International 7400 2003	<ul style="list-style-type: none"> • Pump throttle hard to operate • Foam proportioner lines leak 	<ul style="list-style-type: none"> • Lubed throttle cable • Replaced foam line connections
26.	PAF	6304	Type 4 International 4800 2000	<ul style="list-style-type: none"> • NONE 	<ul style="list-style-type: none"> • NONE
27.	BTF	4196	Type 6 Ford F-550	<ul style="list-style-type: none"> • No relief valve installed • No rock trap / strainer • Hard line reel brake non operational 	<ul style="list-style-type: none"> • None
28.	CTF	4202	Type 6 Ford F-550 2007	<ul style="list-style-type: none"> • Hard line reel brake non operational • No siren 	<ul style="list-style-type: none"> • Hard line reel brake checked out ok • Siren-home unit does not endorse siren use
29.	ASF	6326	Type 6 Ford F-550 2001	<ul style="list-style-type: none"> • Engine cooling fan broken • Lower radiator hose leak • Front main motor seal leaks • Front shocks leak • Tires- inside duels need replaced • Left outside duel mismatched • Pa and siren inoperable • # 1 valve doesn't close completely • Slight cress lower passenger door 	<ul style="list-style-type: none"> • Engine fan replaced • Lower radiator hose replaced
30.	ASF	6330	Type 6 Ford F450 2001	<ul style="list-style-type: none"> • Tie rod bent • Right alley light inoperable • Drafting problems 	<ul style="list-style-type: none"> • Tie rod repaired
31.	CTF	6475	Type 6 Ford F 550 2002	<ul style="list-style-type: none"> • Lower weather stripping loose both cab doors • Rear brake disk scoured both wheels • Pump pressure gauge inoperable • Side discharge coupling leaks • Hard line reel swivel 90 leaks • Foot valve inoperable • Primer pump malfunction drafting problems 	<ul style="list-style-type: none"> • Cleaned exhaust pump primer
32.	BOF	6998	Type 6 Ford F 550 2005	<ul style="list-style-type: none"> • Tie rod bent • Transmission/transfer case leaks • Radiator leak transmission cooler line fitting 	<ul style="list-style-type: none"> • Tie rod repaired

33.	MLF	6293	Type 6 Ford F-550 2001	<ul style="list-style-type: none"> • Right clearance light inoperable • Driver side seat torn • Left side window washer inoperable • Pump intake leaks at coupling • Pump gauge reads low, 30 psi • Right front strobe light inoperable 	<ul style="list-style-type: none"> • Right clearance light
34.	UWCF	0112	Type 4 Sterling 1998	<ul style="list-style-type: none"> • Fan belt • Right side hard line reel switch and brake 	<ul style="list-style-type: none"> • None – scheduled replacement 2009
35.	FIF	5834	Type 4 Ford F-800 1998	<ul style="list-style-type: none"> • Right rear amber light out • Fire extinguisher needs servicing • Minor leaks valves # 13 and # 17 	<ul style="list-style-type: none"> • None
36.	FIF	5962	Type 4 FL-70 Freightliner	<ul style="list-style-type: none"> • Tank sight tube needs replaced • No rock trap • Batteries bad 	<ul style="list-style-type: none"> • Replaced batteries