

Accelerator Performance (10/14-10/20)



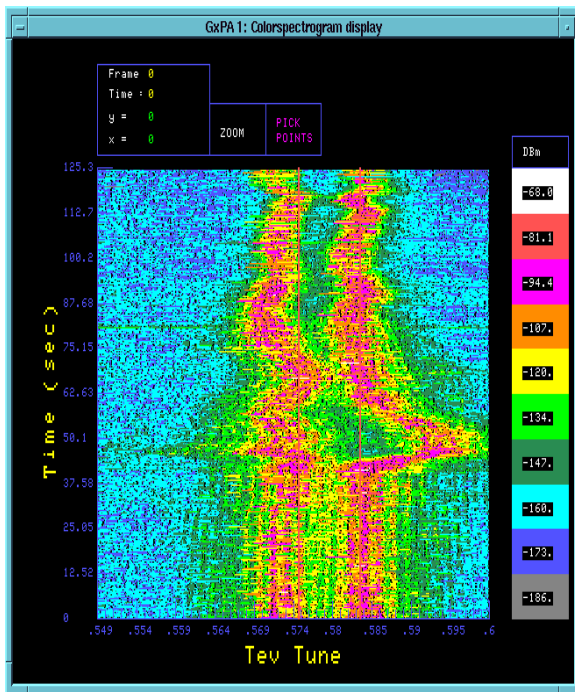
- Accelerator Studies (4 shifts)
 - Tevatron (required ramp maintenance and emittance improvement)
 - Testing New A1 optics to lower pbar emittance
 - Ramp orbit, tune, chromaticity maintenance
 - Parse low beta squeeze
 - Vertical damper commissioning
 - Dedicated 140 mA stack to Recycler

Tevatron ramp and squeeze

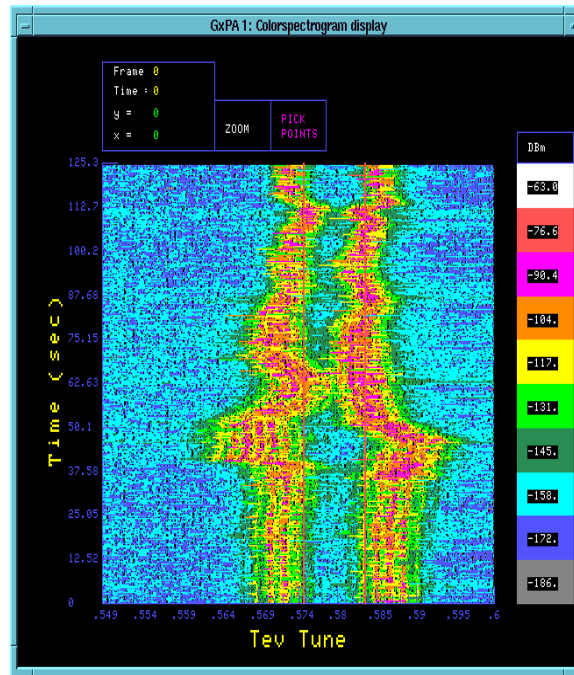


- Tuesday Studies
 - Smoothed orbit up the ramp and thru the squeeze
 - Adjusted tunes and chromaticities on the ramp and squeeze
- After the A11 quenches
 - Orbits are fine
 - Apertures at A0 are fine
 - Lowered horizontal tune at injection and flattop
 - Lowered chromaticity on ramp and flattop
 - Found flipped tunes... re-adjusted

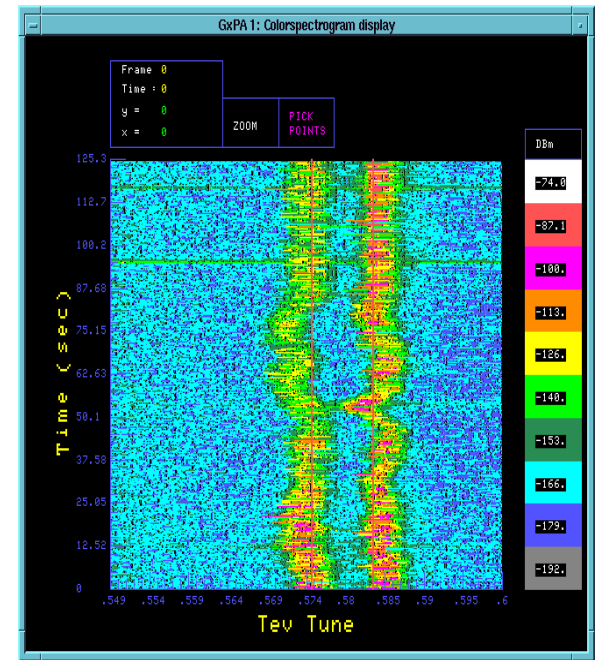
Tevatron tunes



Initial Ramp tunes



Final Ramp tunes



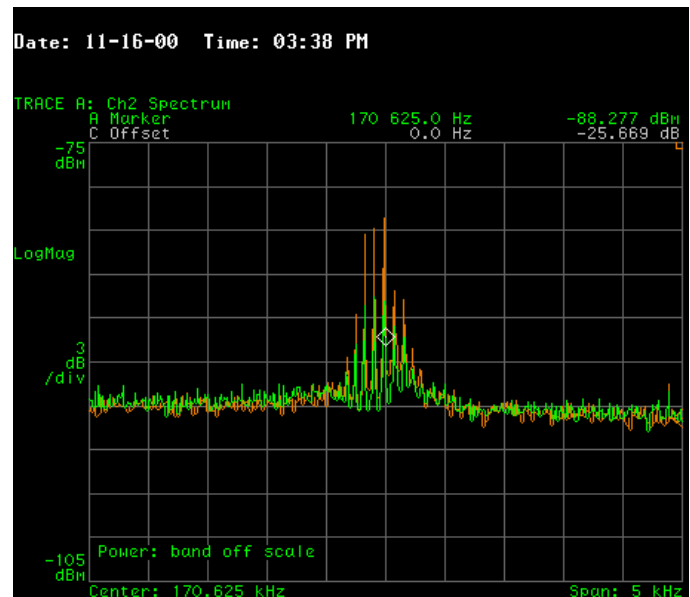
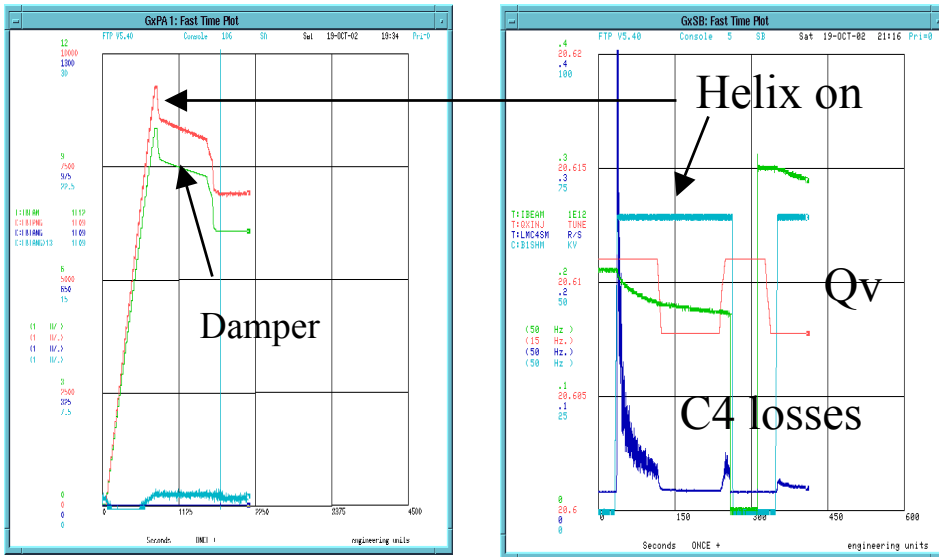
Final Squeeze tunes

Vertical Damper

f

- Found/fixed hardware problems
- Verified vertical damper stabilizes beam at zero chromaticity

- Demonstration of signal suppression by tickling the beam with dampers on & off

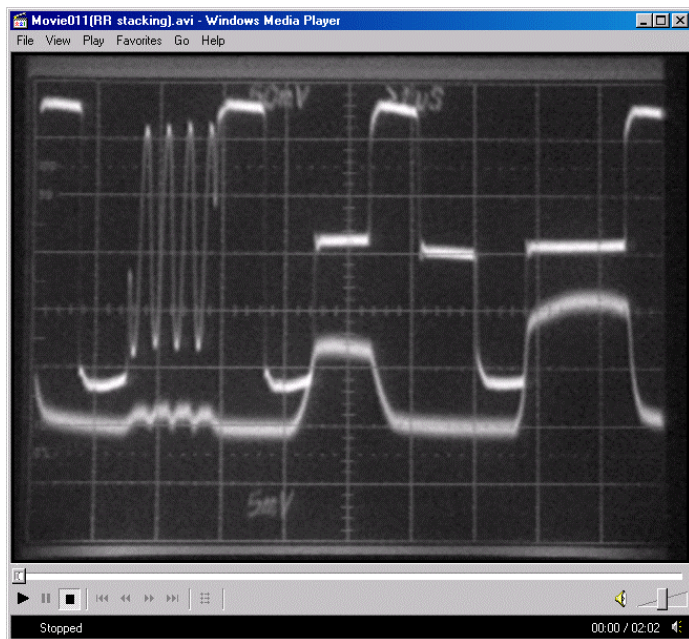


- Impact on proton lifetime depends on
 - tunes
 - chromaticity & damper

Pbars to the Recycler



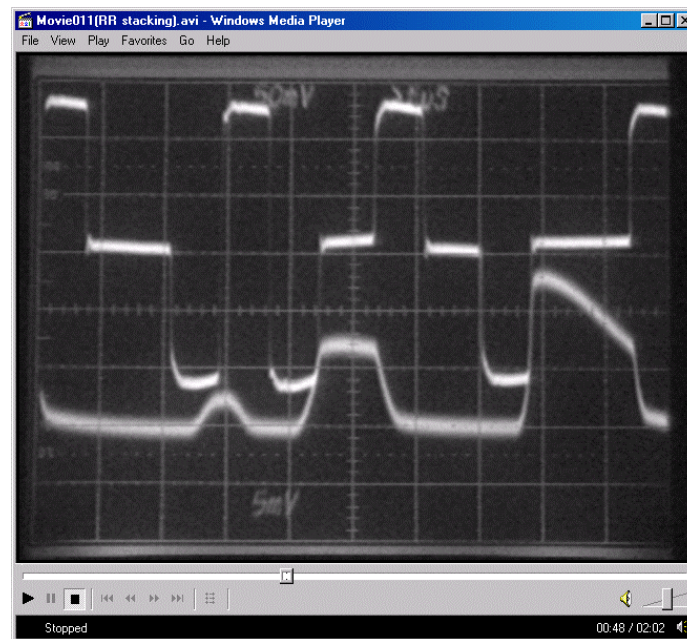
Stacking pbars in the Recycler



Injection

Hot Beam

Cold beam



Beams Week in Review

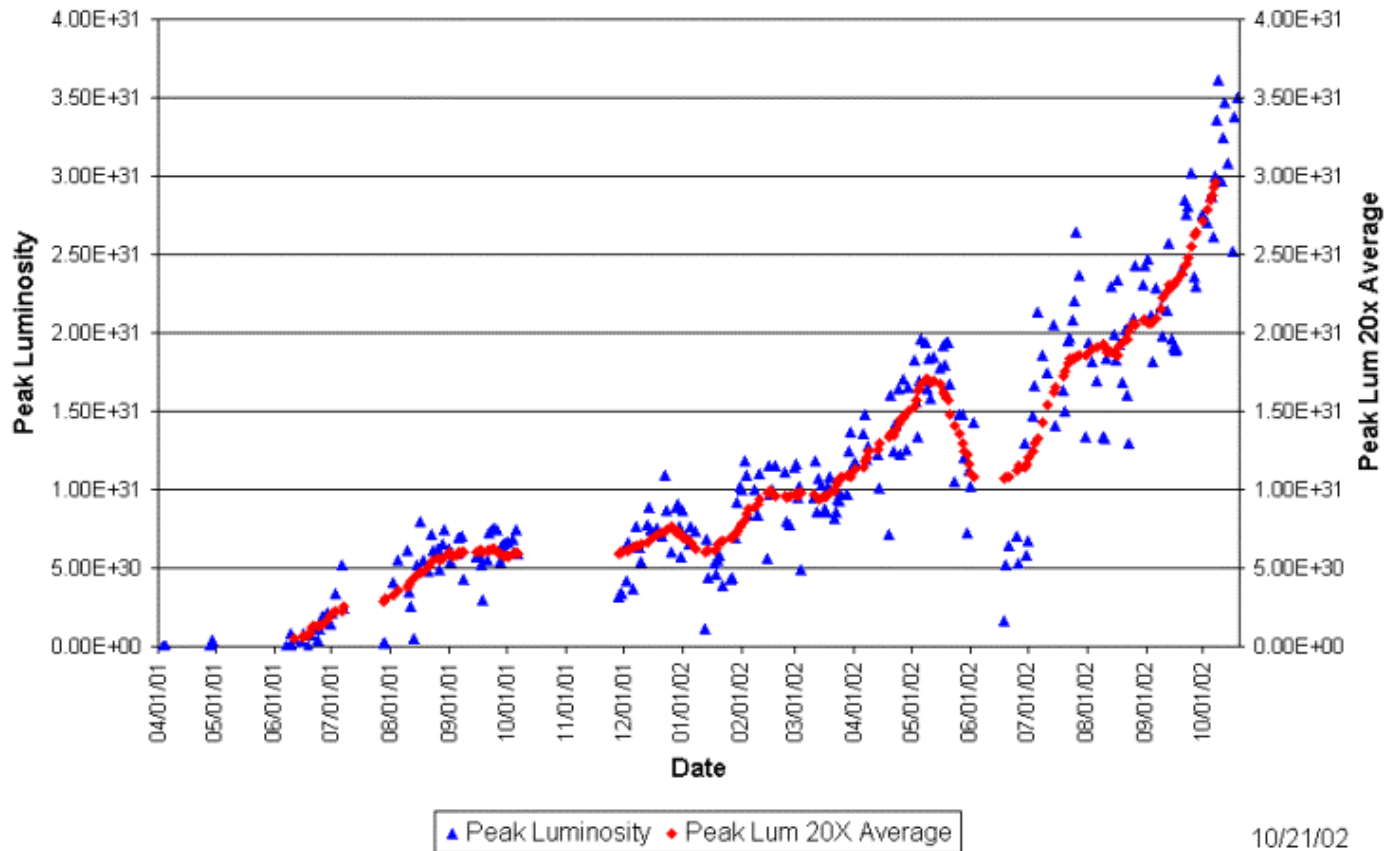


<u>Store</u>	<u>Initial Luminosity</u>	<u>Duration</u>	<u>Termination</u>	<u>Comments</u>
1845	3.09E31	9.3	intentional	143 mA, no known changes
1863	2.52E31	15.5	intentional	96 mA , kicker timing, MI rpos attn
1865	3.38E31	9.7	RF trip (lightning ?)	134 mA, dampers off
18xx	0.0	0.0	Quench A11	
18xx	0.0	0.0	Quench A11	
1886	3.50E31	22.0	intentional	141 mA,tev tunes,coupling,orbits

Peak Luminosity



Collider Run IIA Peak Luminosity

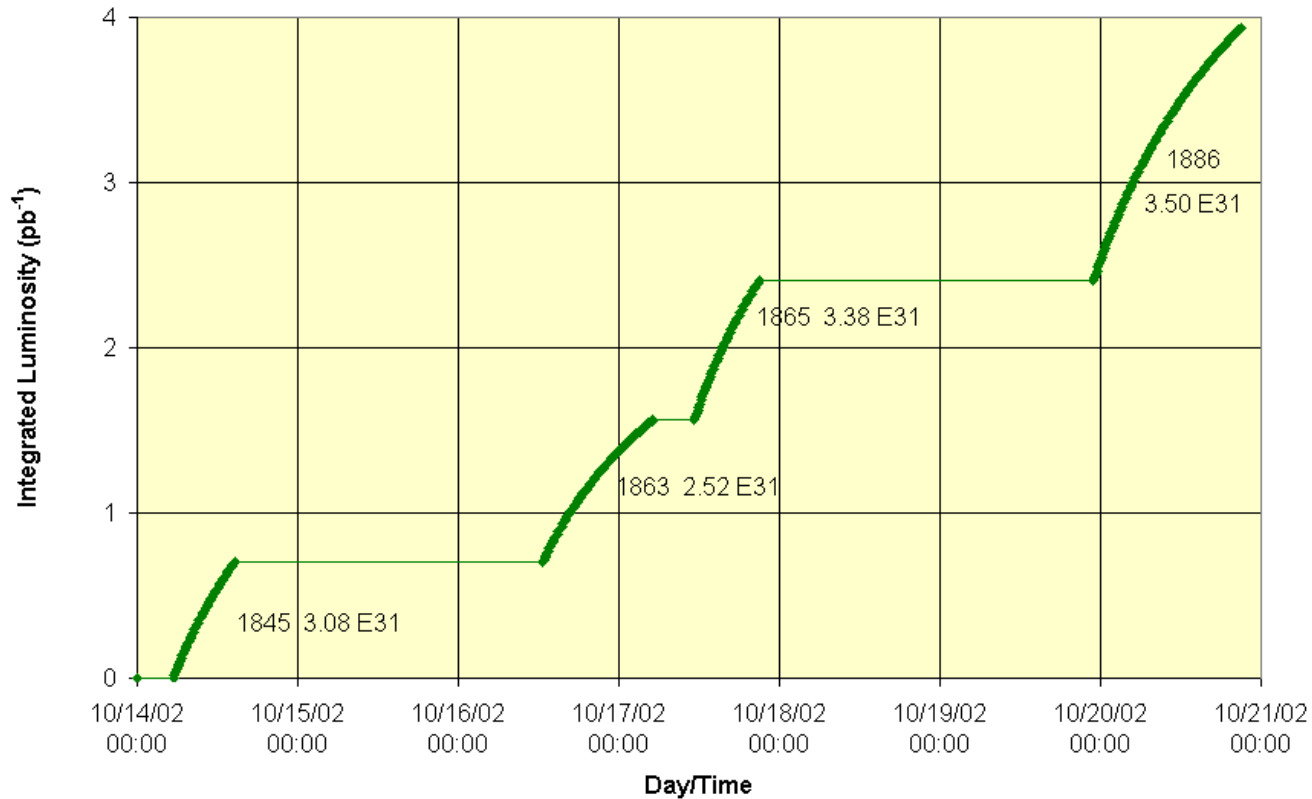


10/21/02

Weekly Integrated Luminosity



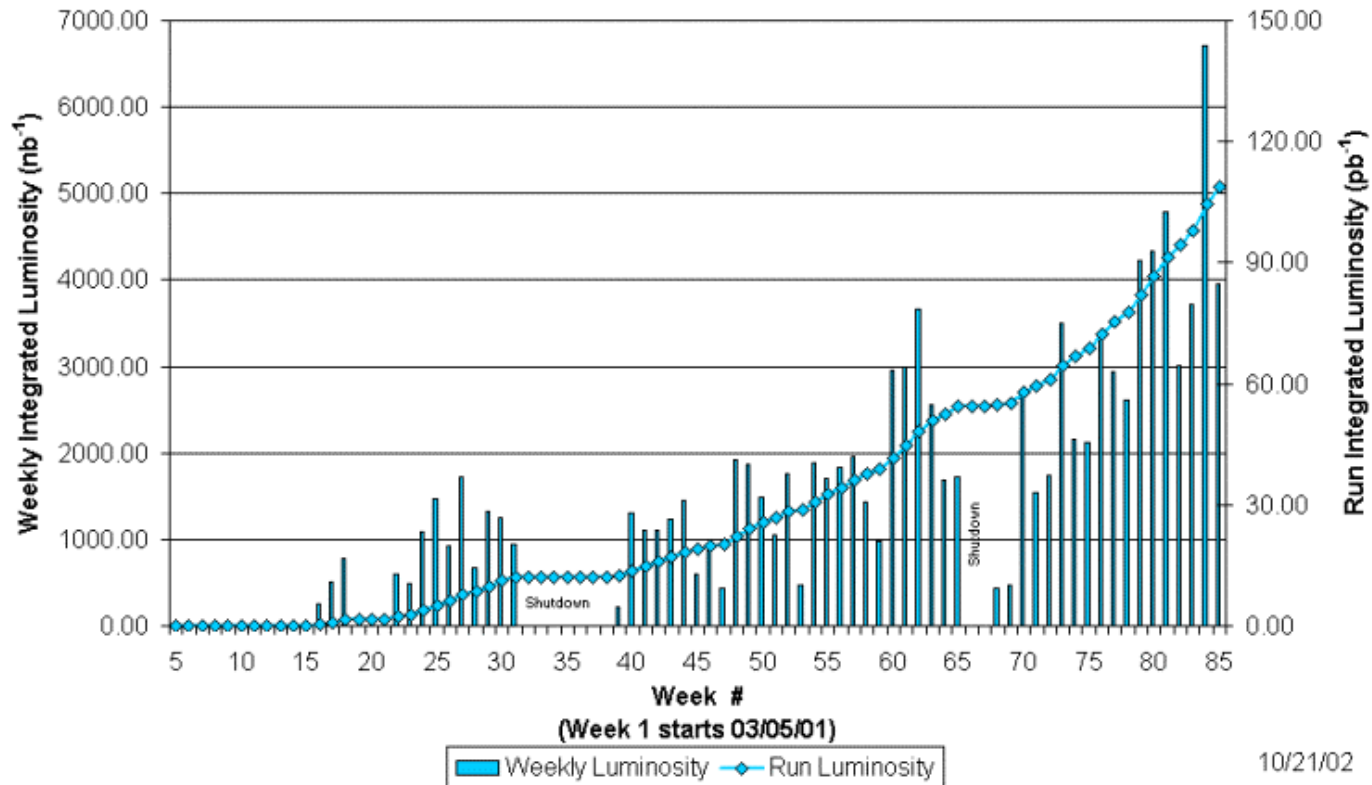
Integrated Luminosity for Week of 10/14/02



Integrated Luminosity



Collider Run IIA Integrated Luminosity



10/21/02

Beams Week in Review



- Current Near Term Issues
 - Proton and pbar emittance preservation
 - Proton and pbar lifetime at pbar injection
 - Proton and pbar lifetime on the ramp
 - Pbar coalescing with large stacks, 85% 140 mA stack

Schedule for this week



f

- Focused Required Maintenance (8 hr)
 - Minimize impact on luminosity
 - Put in Tevatron store to last till Tuesday
 - Pbar maintenance Monday then stack overnight till 0600 Tuesday and sit on stack during Tuesday access.
 - Booster, MI, Tev, Cryo maintenance start Tuesday 0600 – 1500
 - CDF/D0 access start 0400 Tuesday
- Remainder of week Stack 'n Store

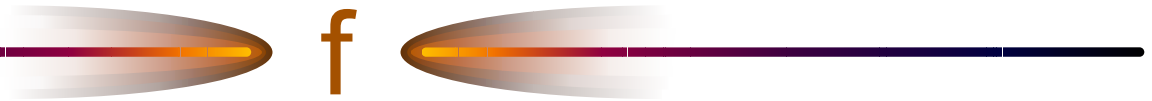
Schedule for this Week

f

Update 10/21/02 1:38 PM	MONDAY 10/21/02	TUESDAY 10/22/02	WEDNESDAY 10/23/02	THURSDAY 10/24/02	FRIDAY 10/25/02	SATURDAY 10/26/02	SUNDAY 10/27/02
Owls 0000 to 0800	Tev - Store	Tev - 0200 EOS Studies - 0400 End Store - 0430 CDF/DO Phar - Stacking - 0600 Hold Stack MI/RR/Booster - 0600 Beam Off - 0700 C/A	Stack and Store	→			
DAYS 0800 to 1600	Tev - Store Phar - Access - 1400 End Access - Stacking	NTF - PT Tev - 1400 CDF/DO - 1500 Keys Back - Startup Phar - Hold/Stacking? MI/RR/Booster - 1500 Keys Back - Startup LINAC - Access after NTF	NTF - PT Stack and Store	→			
EVES 1600 to 2400	Tev - Store Phar - Stacking MI/RR - Studies/Stacking Booster - 2000 Reduce loss beam power to 150.	Tev - Shot & Store Phar - Shot & Stacking MI/RR - Shot & Stacking	Stack and Store	→			

Schedule can be found at <http://www-bd.fnal.gov/operations/schedules.html>

Longer-term schedule



- Week 10/28
 - Stack ‘n Store (No planned dedicated studies/access)
 - Potential short between stores studies and *End of Store* studies
 - Shots to Recycler - off the bottom and small stack dedicated, *depending on Collider operation*
- Week 11/4
 - Stack ‘n store
 - Accelerator studies (?)
- Week 11/11
 - Stack ‘n Store
 - Necessary Repairs (?)