

MECH9720

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HYfa 'Hk c''#'&\$&%

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7cifgY[·]8YHJ]`g

7 fYX]hDc]bhg***

Gi a a UfmcZh\Y'7ci fgY

H\Y'Zc``ck]b[`Uggi a YX`_bck`YX[Y`]g`YI dYWYX`Zcf`dcgh[fUXi UHY`ghi XYbhg`i bXYfhU_]b[`'h\]g`Wci fgY. A A 5B&*\$\$`UbX`A A 5B&+\$\$"

7 \UfUWhYf]gh]Wg`cZgc`Uf`fUX]Uh]cb`UbX`gc`Uf`Wc``YWhcfg"`7 c``YWhcf`YZ]W]YbWhiYj U`i Uh]cb`UbX`dfYX]Wh]cb`cZ `cb[`hYfa`dYfZcfaUbWY"`GmghYa`acXY``]b[ž`YbYf[mighcfU[Y/WcadihYf`g]ai`Uh]cb`UbX`acXY``]b[`cZ dYfZcfaUbWY`UbX`YWcbca]Wkcfh\"

7 ci fgY 5]a g

Gc`Uf`h\Yfa U`YbYf[m]g`WfYUhYX`k \Yb`fUX]Uhjcb`Zfca `h\Y`gi b`]g`Wcbj YfhYX`tc`\YUhYbYf[mfK]fYWhitcf`]btc Y`YWf]WU`YbYf[mf]bX]fYWhinj]U`\YUhtZcf`Udd`]WUhjcbg`]b`h\Y`fYg]XYbhJU`ž`]bXi ghf]U`ž'UbX`Wca a YfWJU` gYWcfg"`H\]g`Vci fgY`k`]``[]j Y`mci `Ub`Yb[]bYYf]b[`dYfgdYWfj Y`cZ\ck`gc`Uf`h\Yfa U``hYWXbc`c[m]g XYg][bYXžWcbghfi WhYXžUbX`cdYfUhYX''H\Y`Z]fghgYWfjcb`cZh\Y`Wci fgY`XYU`g`k`]h\`h\Y`WUfUWh'f]gh]Wg`cZ gi b`][\hz`U`cb[`k`]h\`gca Y`a Yh\cXg`cZUbU`mg]g`UbX`a YUgi fYa YbhcZgc`Uf`fUX]Uhjcb'''H\Y`gYWcbX`gYWfjcb cZh\Y`Wci fgY`Wcj Yfg`h\Y`k cf_]b[`df]bW]d`Yg`cZgc`Uf`h\Yfa U``hYWbc`c[mflck`UbX`\][\`hYWX'E'UbX`[]j Yg`mci h\Y`[YbYfU``tcc`g`bYWfggUfmitc`UbU`mY`\YUhUbX`a Ugg`lfUbgZff'k`]h\]b`h\YgY`XYj JWfg'''@Ughmž'k Y`k`]```Vcj Yf \ck``h\YgY`hYWbc`c[]Yg`WUb`YY`]bhY[fUhYX`]btc`gmghYa g`]bWi X]b[`Wcbfc`žW]fW``Uhjcbž`UbX`ghcfU[Y'''H\Y WcbhYbhfYZYWg`h\Y`YI dYf]YbWY`cZh\Y``YWfi fYf#[`i Yghg`]b`h\Y`fYgYUfWXžXYj Y`cda Ybhz`UbX`]bghU``Uhjcb`cZ h\YgY`gmghYa gžYI dYf]YbWY`k\]gXfUk b`i dcb`h\fci [\ci hh\Y``YWfi fYg`UbX`XYa cbghfUhjcbg''H\]g Wci fgY`ZcW`gYg`cb`h\Y`hYfa]bc`c[mždf]bW]d`Yg`UbX`a Yh\cXg`i gYX`]b`gc`Uf`h\Yfa U``Yb[]bYYf]b[`' 9b[]bYYf]b[`\YUhihfUbgZYf`UbU`mg]g`k`]``VY`i gYX'tc`gc`] Y`a i W\cZh\Y`ei Ubh]fUhjj Y`Wca dcbYbhg`cZh\Y` Wci fgY`fA 97<' *%&t"

H\]gʻWcifgYʻg\ci`XʻU]XʻghiXYbhgʻk\cʻ]bhYbXʻhcʻHJ_YʻacfYʻWUggYgžcfʻdifgiYʻUʻWUfYYfž]bʻfYbYkUVʻY YbYf[mUbX#cfʻh\Yʻh\YfaU``gW]YbWYg"`H\YʻWcifgY`XY`]VYfUhY`mgHJmgʻUkUmZrca`d\chcjc`HJ]WgʻUbXʻZcWgYg cbʻh\YʻWcbjYfg]cbʻcZgc`Uf`YbYf[m]bhcʻ\YUh'`H\]gʻ\YUhWUbʻh\YbʻVYʻigYXʻZcfʻUʻk]XY`jUf]YhncZUdd`]WUh]cbg fUb[]b[ʻZrca`dcc``\YUh]b[ʻUhr'\$`c7`hcʻdfcWYgg]b[ʻa]bYfU`gʻfY"["`5`ia]biaŁUh'2+\$\$`c7"

=b`gi a a Ufmžik]g`Wci fgY`k]```dfcj]XY`Ub`Yb[]bYYf]b[`VUg]g`Zcf`U`HYW\b]WU``UbU`mg]g`cZh\Y`W\UfUWhYf]gh]Wg`cZ gc`Uf`fUX]Uh]cb`UbX`gc`Uf`Wc``YWkcfg"`=hk]```dfcj]XY`ghi XYbhg`k]h\`hcc`g`Zcf`WcbXi Wh]b[`gc`Uf`h\Yfa U` Wc``YWkcf`YZ]WfVbWnYj U`i Uh]cbg`UbX`Zcf`h\Y`dfYX]Wh]cb`cZ`cb[!hYfa `dYfZcfa UbWY`cZgc`Uf`h\Yfa U``gmghYa g" H\i gž'h\Y`Wci fgY`k]```]bWi XY`YbYf[mghcfU[Y`UbX`gmghYa `a cXY`]b[`j]U`Wca di hYf`g]a i`Uh]cb`cZh\Y dYfZcfa UbWY`UbX`YWcbca]Wk cfh\`cZgc`Uf`h\Yfa U``gmghYa g"

7cifgY`@YUfb]b[`CihWcaYg

5ZhYfigi VWVggZ ``mWcad`Yh]b[h\]g'WcifgYžmci ig\ci`X'VY'UV`Y'hc.

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| %"CVHJbUVUg]WibXYfgHJbX]b['cZ\ck'hc'aYUgifY'UbX'WJW'`UHY gU`]YbhfUX]Uh]cb'dfcdYfh]Yg'UbX'XUHJ'h\Uhk]```U``ck'mci'hc'gc`jY gc`Uf'h\YfaU``YbYf[mXYg][b'dfcV`Yag | D9%"% |

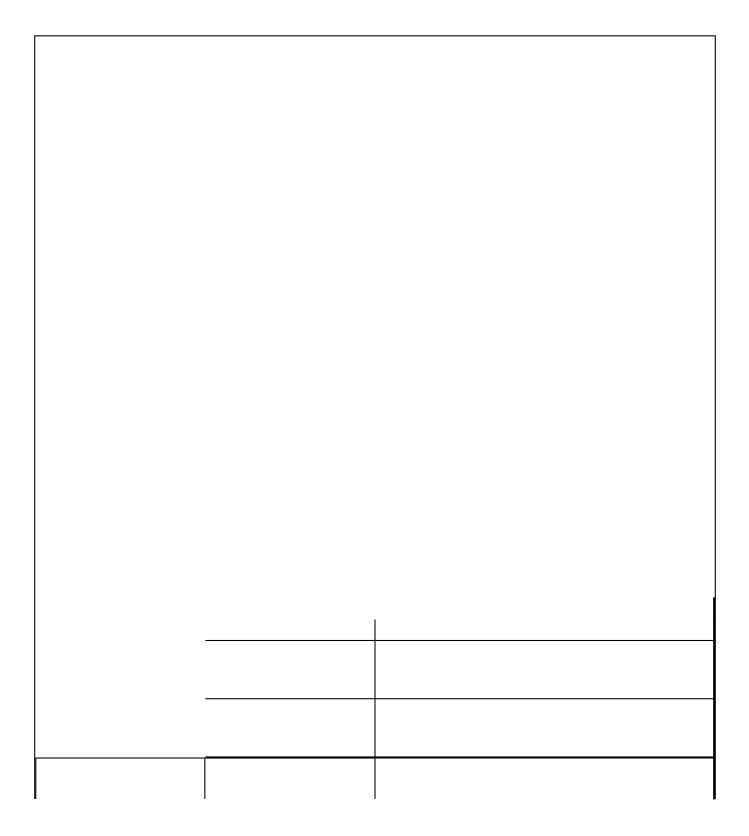
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Gi Va]gg]cb`bchYg.`Gi Va]hUhUbmh]a Y`k]h.]b`h.Y`k YY_`fl/YZcfY`h.Y`XYUX`]bYŁ"

Hi fb]h]b`gYh]b[.`H\]g`]g`bchU`Hi fb]h]b`Ugg][ba Ybh



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FYgHUh]b['h\Y'UVcj Yž'h\Y'Zc``ck]b['fYdfYgYbhg'U``]ghcZh\Y'a cghi gYZ ``fYgci fWfg'Zcf'h\]g'Wci fgY.

- "A 97 < +&\$ "7 ci fgY"BcH/gł f]b"A ccX`YŁ
- H\Y'WeifgY'bchYg'UfY'bYYXYX'hc'gc'jY'h\Y'XYa cbghfUh]cb'gYgg]cb'dfcV'Ya g'UbX'fci [\`miZc``ck U`cb['k]h\'h\Y'WeifgY'WebhYbh'
- Cb`]bY'@Yggcbg'f]b'AccX`YŁ
- J]XYc fYWcfX]b[g cZ`YWi fYg Zca dfYj]ci g mYUfg f]b A ccX`YŁ
-]b]XYccfXHVcfX]b[gcVZaf&VYa gcj]b[XYa cbg%6Jh]cbgf]bAccXYŁ

8if]b[`h\Y`WcifgYžkY`k]```\UjY`Ub`cddcfhib]hm`Zcf`]b!dYfgcb`ghiXYbhg`hc`WcbXiWh`U`d\mg]WU```UV`UWh]j]hm`cb

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

5ggYgga Ybhigi Va]gg]cb UbX a Uf_]b[Wf]hYf]U

G\ci`X'h\Y`WcifgY`\UjY`Ubmbcb!Y`YWfcb]WUggYggaYbhigiVa]gg]cbžh\YgY`g\ci`X`\UjY`U`ghUbXUfX GW\cc``WcjYf`g\YYh

5```gi Va]gg]cbg`UfY`YI dYWYX`hc`VY`bYUhUbX`WYUf`migYhci h'`Mci f`fYgi `hg`UfY`h\Y`d]bbUWY`cZU```mci f`\UfX k cf_`UbX`g\ci `X`VY`hfYUhYX`k]h\`Xi Y`fYgdYWf`DfYgYbh]b[`fYgi `hg`WYUf`mi[]j Yg`h\Y`a Uf_Yf`h\Y`VYghW\UbVW cZi bXYfgHUbX]b[`mci f`a Yh\cX/Yj Yb`]Zh\Y`bi a Yf]WU``fYgi `hg`UfY`]bWcffYWf

A Uf_]b[`[i]XY`]bYg'Zcf'Ugg][ba Ybhgi Va]gg]cbg'k]```VY'dfcj]XYX'Uhih\Y'gUa Y'h]a Y'Ug'Ugg][ba YbhXYhJ]`g hc'Ugg]ghik]h\`a YYh]b['UggYggUV`Y'fYei]fYa Ybhg"'Gi Va]gg]cbg'k]``'VY'a Uf_YX'UWWcfX]b['hc'h\Y'a Uf_]b[[i]XY`]bYg'dfcj]XYX"

@UhY`dc`]Wm

K cf_`gi Va]hhYX``UhY`k]h\ci hUb`Uddfcj YX`YI hYbg]cb`Vmh\Y`Wci fgY`WccfX]bUhcf`cf`XY`Y[UhYX`Ui h\cf]hm]g gi VYWhc`U``UhY`dYbU`hmcZ`&\$`dYfWYbhf&\$i Ł`cZh\Y`a UI]a i a `a Uf_`dcgg]V`Y`Zcf`h\UhUggYgga Ybh`]hYa ž dYf`WU`YbXUf`XUm'

H\Y``UhY`dYbU`hm`]g`Udd`]YX`dYf`WU`YbXUf`XUmf]bWi X]b[`kYY_YbXg`UbX`di V`]W\c`]XUmgEh\Uhh\Y UggYgga Ybh`]g`cj YfXi Y"`H\YfY`]g`bc`dfc!fUhU`cZh\Y``UhY`dYbU`hmZcf`gi Va]gg]cbg`a UXY`dUfhk Umh\fci [\`U XUm'

K cf_`gi Va]hhYX`UZhYf`h\Y`*XYUX`]bY`Zcf`UVgc`i hY`ZU]```]g`bchUVW¥dhYX`UbX`U`a Uf_`cZnYfc`k]```VY`Uk UfXYX Zcf`h\UhUggYgga Ybh`]hYa "

: cf`gca Y`UggYgga Ybh`]hYa gžU``UhY`dYbU`hma UmbchVY`Uddfcdf]UhY"`H\YgY`UfY`WYUf`m`]bX]WUhYX`]b`h\Y Wci fgY`ci h`]bYžUbX`gi W\`UggYgga Ybhg`fYWY]j Y`U`a Uf_`cZnYfc`]ZbchWca d`YhYX`Vmh\Y`gdYW]ZJYX`XUhY" 9I Ua d`Yg`]bWi XY.

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&" C b`]bY'ei]nnYg'k \YfY'Ubgk Yfg'UfY'fY`YUgYX'hc'gh XYbhg'cb'Wca d`Yh]cbžcf

' "DfcZygg]cbU``UggYgga YbhHUg_gžk \YfY`H\Y`]bHybHjcb`]g`hc`WfYUHy`Ub`Ui H\YbHjWUggYgga YbhH\Uh \Ug`Ub`UVgc`i Hy`gi Va`]gg]cb`XUHyžcf

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UggYgga YbhidYfZcfa UbWYžmci 'UfY'Y`][]V`Y`hc'Udd`miZcf`GdYWJU``7cbg]XYfUhJcb'df]cf`hc'gi Va]hhjb['UbUggYgga Ybhicf`g]hhjb['Ub'YI Ua "

IBGK 'bck '\Ug'U'<u>|hhc'G]h#GiVa]hfi 'Y</u>žk\]W\'aYUbg'h\Uh]Zmci 'UhhYadh'Ub'YIUa 'cf'giVa]hU'd]YWY'cZ UggYggaYbhžmci 'UfY'XYWUf]b['mcifgY`ZZ]h'Ybci [\'hc'Xc'gc'UbX'WUbbch`UhYf'Udd`mZcf'GdYW]U` 7cbg]XYfUh]cb"

: cf`XYHJ]`g`cZUdd`m]b['Zcf`GdYW]U``7 cbg]XYfUH]cb`UbX`WcbX]H]cbg`Zcf`H\Y`Uk UfX`cZgi dd`Ya YbHUfm UggYgga Ybhž'd`YUgY`gYY`H\Y`]bZcfa UH]cb`cb`L BGK **'**g`<u>GdYW]U``7 cbg]XYfUH]cb`dU[Y</u>"

D`YUgY'bchY'h\Uhigh XYbhg'k]``bch'VY'fYei]fYX'hc'dfcj]XY'UbmXcW'a YbhUfmYj]XYbW'hc gi ddcfh'UVgYbW'g'Zfca 'Ubm'WUggYg'a]ggYX'VYWUi gY'cZ'7CJ=8!% 'di V`]W\YU'h\'a YUgi fYg'gi W\'Ug]gc`Uh]cb"'I BGK 'k]``bch'VY']bg]gh]b['cb'a YX]WU''W'fh]Z]WUh'g'Zfca 'UbmcbY'XYYa YX'hc'VY'U'dcg]h]j Y'WUgYź cf'k\Yb'h\Ym'\Uj Y'fYWcj YfYX"'Gi W\'W'fh]Z]WUh'g'UfY'X]Z]W'hhc'cVHU]b'UbX'di hUb'i bbYW'ggUfmghfU]b'cb gh XYbhg'UbX'a YX]WU`'ghUZ''

5dd`]WUhjcbg'Zcf'gdYWjU`'Wcbg]XYfUhjcb'k]``VY'fYei]fYX'Zcf'UggYggaYbh'UbX'dUfhjWjdUhjcb'UVgYbWYg'-Vi hbc'XcW a YbhUfmYj]XYbWY'Zcf'7CJ=8'% ']``bYgg'cf']gc`Uhjcb'k]``VY'fYei]fYX"

5WUXYa]W<cbYghmUbX D`U[]Uf]ga

IBGK `\Ug`Ub`cb[c]b[`Wcaa]haYbhhc`ZcghYf]b[`U`W`hifY`cZ`YUfb]b[`]bZcfaYX`VmUWUXYa]W]bhY[f]mi`5`` IBGK `ghiXYbhg`\UjY`U`fYgdcbg]V]`]mhc`UX\YfY`hc`h\]g`df]bW]d`Y`cZUWUXYa]W]bhY[f]mi`D`U[]Uf]ga ibXYfa]bYg`UWUXYa]W]bhY[f]miUbX`]g`bchhc`YfUhYX`UhIBGK "`B'SY[Sde_SfG@EI[eVW{`WVSege[`Y fZWiadVead[VWSeaXafZWdeS`V bSee[`YfZW_aXSekagdai`ž

D`U[]Uf]ga `]g`U`ImdY`cZ]bhY``YWi U``I\YZi" =iWUb`IU_Y`a UbmZcfa gžZica `XY`]VYfUhY`WXYUhb[`Ic`UWV]XYbHJ``m Wcdm]b[`Zica `U`gci fW'k]h\ci hUW_bck `YX[Ya Ybh'i BGK `\Ug`dfcXi WYX`U`k YVg]HY`k]h\`U`k YU`h\`cZ fYgci fWfg`Ic`gi ddcfhigh XYbhg`Ic`i bXYfgHJbX`UbX`Uj c]X`d`U[]Uf]ga žij]g]h`gh XYbh'i bgk "YXi "Ui #d`U[]Uf]ga " H\Y`@YUfb]b[`7Ybh'Y`Ugg]ghg`gh XYbhg`k]h`i bXYfgHJbX]b[`UWUXYa]W]bh'[f]hmUbX`\ck`bchIc`d`U[]Uf]gY" H\YmU`gc`\c`X`k cf_g\cdg`UbX`WJb`\Y`d`gh XYbhg`cbY!cb!cbY"

Mci 'UfY'U`gc`fYa]bXYX'h`UhWUfYZ ``h]a Y`a UbU[Ya Ybh`]g`Ub`]a dcftUbhdUfhcZghi XmUbX`cbY`cZh`Y]XYbh]ZYX`WUi gYg`cZd`U[]Uf]ga `]g`dccf`h]a Y`a UbU[Ya Ybh'`Ghi XYbhg`g\ci `X`U``ck `gi ZJWJYbhh]a Y`Zcf fYgYUfW\žXfUZf]b[`UbX`h`Y`dfcdYf`fYZYfYbW]b[`cZgci fWYg`]b`dfYdUf]b[`U```UggYgga YbhHUg_g"

-Zd`U[]Uf]ga `]g`Zci bX`]b`mci f`k cf_`k \Yb`mci `UfY`]b`Z]fghmYUfžmci f`YVMi fYf`k]``cZYf`mci `Ugg]gHUbWY`hc]a dfcj Y`mci f`UVUXYa]Wg_]``g"`H\Yma UmUg_`mci `hc``cc_`Uhigca Y`cb`]bY`fYgci fWYgžUfHYbX`h\Y`@YUfb]b[7YbhYžcf`gca Yh]a Yg`fYgi Va]himci f`k cf_`k]h\`h\Y`dfcV`Ya `Z]I YX"`<ck Yj Yf`a cfY`gYf]ci g`]bgHUbWYg`]b`Z]fgh mYUfž`gi W\`Ug`gHYU`]b[`Ubch\Yf`ghi XYbhg`k cf_`cf`dUm]b[`gca YcbY`hc`Xc`mci f`k cf_ža UmVY`]bj Ygh][UHYX i bXYf`h\Y`Ghi XYbhA]gWcbXi WhDfcWYXi fYg"

FYdYUHYX'd`U[]Uf]ga `fYjYb`]b`Z]fghmYUfłž'd`U[]Uf]ga `UZHYf`Z]fghmYUfž'cf`gYf]cig`]bgHUbWYgž'a UmU`gc`VY]bjYgh][UHYX'i bXYf'h\Y`GhiXYbhA]gWcbXi WhDfcWYXi fYg"`H\Y`dYbU`h]Yg`i bXYf'h\Y`dfcWYXi fYg`WUb`]bWiXY U`fYXi Wh]cb`]b`a Uf_gž'ZJ]`]b[`U`Wci fgY`cf`Zcf`h\Y`a cghgYf]cig`a UHHYfg`f1]_Y`d`U[]Uf]ga `]b`Ub`\cbci fg h\Yg]gŁYjYb`gi gdYbg]cb`Zfca `h\Y`ib]jYfg]mh'H\Y`GhiXYbhA]gWcbXi WhDfcWYXi fYg`UfY`UjU]`UVY`\YfY.

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7 fYX]hdc]bhg

7 ci fgY`WYX]hi]g`WU`W``UhYX`]b`I b]hg!CZ7fYX]hfI C7Ł"`H\Y`bcfa U``kcf_`cUX`YI dYWUh]cb`Zcf`cbY`I C7

• <u>A ccX`Y</u>